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ASBESTOS CONTAINING MATERIALS IN SCHOOL BUILDINGS: BULK SAMPLE ANALYSIS QUALITY ASSURANCE PROGRAM: ROUNDS 12, 13, AND BLIND ROUND III

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Bulk Sample Rounds 12, 13 and
Blind Round III

by

Melvin L. Parris and Keith Starner
Research Triangle Institute
Research Triangle Park, North Carolina 27709

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Quality Assurance Division
Environmental Monitoring Systems Laboratory
U.S. Environmental Protection Agency
Research Triangle Park, N.C. 27711

ENVIRONMENTAL MONITORING SYSTEMS LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

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16. ABSTRACT

This report presents the results of laboratories participating in the twelveth, thirteenth and third (III) blind round of the bulk sample analysis quality assurance program sponsored by the U.S. Environmental Protection Agency. Three hundred twenty-three, 386 and 51 laboratories which analyze bulk samples (by polarized light microscopy) to determine asbestos content participated in these rounds, respectively.

Laboratories received bulk samples of asbestos, asbestos substitutes or other bulk insulation materials. Three aspects of analytical results were considered: classification of a sample as either asbestos (positive) or nonasbestos (negative); identification of the specific type of asbestos present; and quantitation of the relative amount of major constituents present. A performance rating was assessed for each laboratory, based only on the ability to correctly classify samples. Reductions of a possible 4/4 correct score was made only for the reporting of false positives and false negatives. Samples were correctly classified as asbestos or non-asbestos containing materials (as described in Federal Register, Vol. 47, No. 103, Thursday, May 27, 1982) by 98.5%, 98.6% and 96.7% of the laboratories participating in rounds 12, 13 and the 3rd blind round, respectively.

Continuation of the program is anticipated. Any commercial or noncommercial organization with facilities for polarized light microscope analysis of bulk samples may participate. Results of commercial laboratories are published in the interim listing of "Commercial Laboratories with Polarized Light Microscope Capabilities for Bulk Asbestos Identification." ."

This report is submitted in fulfillment of contract numbers 68-02-4125 and 68-02-3767 by Research Triangle Institute under the sponsorship of the U.S. Environmental Protection Agency. This report covers the period from February 1, 1985 to December 26, 1985 and work was completed as of February 28, 1985.

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ABSTRACT

This report presents the results of laboratories participating in the twelfth, and thirteenth bulk sample rounds and the third (III) blind round of the bulk sample analysis quality assurance program sponsored by the U.S. Environmental Protection Agency. Three hundred and twenty-three, 386 and 51 laboratories which analyze bulk samples (by polarized light microscopy) to determine asbestos content participated in rounds 12, 13 and the third blind round, respectively.

Laboratories received bulk samples of asbestos, asbestos substitutes or other bulk insulation materials. Three aspects of analytical results were considered: classification of a sample as either asbestos (positive) or nonasbestos (negative); identification of the specific type of asbestos present; and quantitation of the relative amount of major constituents present. A performance rating was assigned to each laboratory, based only on the ability to correctly classify the survey samples. Of a possible 4/4 correct score, reductions were made only for the reporting of false positives and false negatives. Samples were correctly classified as asbestos or nonasbestos containing materials (as described in the Federal Register, Vol. 47, No. 103, Thursday, May 27, 1982) by 98.5%, 98.6% and 96.7% of the laboratories participating in rounds 12, 13 and the third blind round, respectively.

Any commercial or noncommercial organization with facilities for polarized light microscope analysis of bulk samples may participate in the program. Results of commercial laboratories are published in the interim listing of "Commercial Laboratories with Polarized Light Microscope Capabilities for Bulk Asbestos Identification." Round 14 of the Bulk Sample program is scheduled for May, 1986.

This report is submitted in fulfillment of contract numbers 68-02-4125 and 68-02-3767 by Research Triangle Institute under the sponsorship of the U.S. Environmental Protection Agency. This report covers the period from February 1, 1985 to December 26, 1985. Work was completed as of February 28, 1986.

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SECTION 1

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) Asbestos-In-Schools Program designates polarized light microscopy (PLM), supplemented when necessary by X-ray powder diffraction, as the recommended method for detecting asbestos in friable materials.[1,2] In January 1980, a quality assurance (QA) program was initiated for laboratories capable of performing PLM analysis of bulk samples. The goals of the program were twofold: first, to assist laboratories in developing reliable PLM analytical capability by providing an independent check on data quality and by supplying characterized samples for use in internal quality control; and second, to facilitate public access to competent analytical laboratories. Commercial or noncommercial organizations with PLM analytical capabilities are eligible to participate in the EPA-QA program. Participation in this interlaboratory testing program does not lead to accreditation, certification, endorsement or other official approval for bulk asbestos sample analysis.

Participating commercial laboratories and their performance ratings are listed in a written report, Commercial Laboratories with Polarized Light Microscope Capabilities for Bulk Asbestos Identification. This report is made available after each QA round to EPA Regional Asbestos Coordinators (RACs), state asbestos contacts, and the general public. Further information on the QA program, participating laboratories, and/or procedures for sampling and analysis of asbestos-containing bulk materials is available by contacting the Asbestos Technical Information Service using the toll-free number 1-800-334-8571, extension 6741.

1 CFR, Title 40, Subpart F. Friable Asbestos-Containing Materials in schools. Section 763.109, Analyzing Friable Material.

2 Test Method - Interim Method for the Determination of Asbestos in Bulk Insulation Samples, U.S. Environmental Protection Agency, Publication Number EPA-600/M4-82-020, Environmental Monitoring Systems Laboratory, Research Triangle Park, North Carolina, December 1982.

Rounds 1 and 2 of the QA Program were conducted in 1980. Results were reported in two EPA reports: EPA-560/13-80-23, published in August 1980, and EPA-560/5-81-001, published in March 1981. Rounds 3 and 4 were conducted in June 1981 and January 1982, respectively, and results were reported in an RTI report (Contract Number 68-02-3431) in June 1982. Rounds 5, 6, 7, 8, and Blind Round I were conducted in fiscal year '82/'83 and reported in an RTI report (Contract Number 68-02-3767). Rounds 9, 10, 11 and Blind Round II were conducted in fiscal year '83/'84 and published as EPA/600/4-85/047, in July 1985. The following report describes the results of Rounds 12, 13 and Blind Round III.

SECTION 2

PROCEDURES AND METHODS

This section reviews the procedures and methods followed in conducting the QA Bulk Sample and Blind Rounds. Section 2.1 discusses the selection and distribution of the bulk samples, the reporting form, coding form and laboratory instructions, the report to laboratories, and the calculation of the laboratory's performance rating in Bulk Sample Rounds 12 and 13. Section 2.2 discusses the selection of laboratories and analysis of the laboratory results in Blind Round III.

2.1 BULK SAMPLE ROUNDS

2.1.1 Bulk Sample Repository

Bulk sample materials are stored in a repository located at Research Triangle Institute in Research Triangle Park, North Carolina. The repository contains mine grade asbestos, supplied by asbestos mining companies, asbestos containing insulation materials, substitutes and nonasbestos materials that are purchased or provided by manufacturers or removal contractors. Samples of the test audit bulk materials in the repository are distributed in 20 mL plastic vials to the participants.

2.1.2 Selection of the Bulk Material Samples

Bulk materials selected for distribution in a QA round are thoroughly analyzed for sample uniformity and asbestos content in the RTI Optical Microscopy Laboratory. The results of this analysis are com- e pared with results of the initial screening analysis performed when th bulk material was received at the RTI repository. If the two analyses agree in terms of asbestos content and sample consistency, a sample of the bulk material is then sent to the reference laboratory for characterization.

2.1.3 Reference Analysis of the Bulk Material Samples

The reference analyses of the bulk material samples were performed by the U.S. Department of the Interior, Bureau of Mines, in Avondale, Maryland.

The bulk sample is first examined with a low power (approximately 10-45X) stereo binocular microscope for gross characterization. Two to eight slides are then prepared for PLM examination using material taken from representative subsamples of each sample or each layer within a sample. These slides are examined at magnifications ranging from approximately 40X to 400X with most characterization done at low power.

The number of slides prepared and examined are determined by the analyst's experience and his judgment of the component complexity and homogeneity of each sample or layer. The area percent of asbestos is visually estimated with the aid of modal percentage charts and is then converted to an estimated weight percent based on the analyst's experience with similar materials. Other fibrous nonasbestos materials in the bulk sample are estimated by weight percent in the same manner and listed in the analysis report. When a bulk sample contains two or more layers, each layer is weighted according to its thickness to calculate the total estimated weight percent of the components for the entire bulk sample.

If the results of the reference analysis agree with the RTI analysis for a given bulk material sample, it is then confirmed for distribution in the QA rounds. The reference analysis and the RTI analysis must agree on the following characteristics: classification of the bulk sample as an asbestos containing or nonasbestos containing material, agreement on the type of asbestos, determination of whether asbestos is present, and general agreement on the composition of the major components of the sample.

2.1.4 Distribution of the Bulk Material Samples to the Participating Laboratories

A set of four different bulk material samples is sent to each participating laboratory. The bulk samples are packaged in 20 mL plastic vials, placed in plastic bags, and inserted into padded envelopes along with reporting and coding forms, and analysis instructions. Laboratories are given 20 working days following sample receipt to analyze the set of bulk material samples and to return their coded analytical results to RTI.

The reporting form, coding form, and instructions that are used by the participating laboratory to process and record their analytical results are included in Appendix A. The reporting form has a data entry space for the identity of asbestos fibers and nonasbestos materials, analytical method(s) used, and quantitative procedures used.

2.1.5 Laboratory Performance Reports

Laboratory performance is based on the ability of a laboratory to determine if a bulk material sample does or does not contain greater than one percent asbestos by weight. A performance rating is calculated based on the number of classification errors made by the laboratory. A classification error can either be a false positive (nonasbestos) or false negative (no asbestos reported in a sample containing greater than one percent asbestos).

Written reports are sent to each participating laboratory at the completion of each round (see Appendix B). These reports list the qualitative results of the Bureau of Mine's reference analysis for each bulk sample, the participating laboratory's performance rating, the number of false negatives and/or positives reported by the participating laboratory, and a cumulative distribution for the percentage of asbestos reported in each bulk sample by the participating laboratories. Identification errors, resulting from the incorrect identification of a mineral species, are also indicated in the report to laboratories. Identification errors do not result in a reduction of a laboratory's performance rating.

2.2 BLIND ROUND

2.2.1 Introduction

It is believed that great time and effort are taken by the commercial laboratories when analyzing the quarterly EPA QA samples. The purpose of the blind audit is to confirm that the same effort is taken when analyzing non-EPA bulk materials.

2.2.2 Laboratory Selection

The laboratories participating in the blind round were selected randomly from those listed in the EPA publication "Commercial Laboratories with Polarized Light Microscope Capabilities for Bulk Asbestos Identification, Interim List Number 18."

A total of 51 commercial laboratories participated in the blind round. Table 1 contains a list of these 51 laboratories and their geographical location.

TABLE 1. LIST OF THE COMMERCIAL LABORATORIES PARTICIPATING IN THE BULK ASBESTOS QUALITY ASSURANCE BLIND ROUND III.

Region	Laboratory Name	Laboratory Location
I	Environmental Associates, Inc.	Fairfield, CT
	GCA Technology Division	Bedford, MA
	K-Chem Laboratories	Boston, MA
	Dennison Environmental	Woburn, MA
	Certified Engineering & Testing Co. Inc.	Pembroke, MA
II	PSE & G Research Corporation	Maplewood, NY
	Structure Probe, Inc.	Metuchen, NJ
	Shimel and Sor Testing Laboratories	East Hanover, NJ
	Enviro-Probe, Inc.	Bronx, NY
	Galson Technical Services	East Syracuse, NY
	New York Testing Laboratories	Westbury, NY
III	Oneil M. Banks, Inc.	Bel Air, MD
	Universal Laboratories	Pittsburgh, PA
	Betz Converse Murdoch Laboratory	Norristown, PA
	FREE-COL Division	Meadville, PA
	Spotts, Stevens, & McCoy	Wyomissing, PA
	Comprehensive Chemical Consulting	Broomall, PA
	Industrial Health Foundation, Inc.	Pittsburgh, PA
IV	Southern Earth Sciences, Inc.	Mobile, AL
	Thornton Laboratories	Tampa, FL
	Technical Service, Inc.	Jacksonville, FL
	Environmental Science & Eng., Inc.	Gainesville, FL
	Cavin Analytical Consultant	Snellville, GA

TABLE 1. (continued)

Region	Laboratory Name	Laboratory Location
IV (Continued)		
	Northern Kentucky Environ'l Svc.	Covington, KY
	McCoy & McCoy, Inc.	Madisonville, KY
	Northrop Services, Inc.	Research Triangle Park, NC
	Industrial Insulation Co., Inc.	N. Charleston, SC
	Azimuth, Inc.	Goose Creek, SC
V	Particle Data Laboratories, Inc.	Elmhurst, IL
	IHI Kemron Environmental Services	Farmington Hills, MI
	The St. Paul Insurance Company	St. Paul, MN
	Wadsworth Testing Laboratories	Canton, OH
	Lyle Laboratories	Columbus, OH
	American Analytical Laboratories	Akron, OH
	S. H. Gelles Associates	Columbus, OH
	Bruce Menkel & Associates, Inc.	Stevens Point, WI
VI	Acadiana Research Laboratory	Lafayette, LA
	EIRA, Inc.	Metairie, LA
	Oklahoma State Dept. of Health	Oklahoma City, OK
VII	Hall-Kimbrell Envr. Services, Inc.	Lawrence, KS
	Wilson Laboratories	Salina, KS
VIII	CSMRI-Analytica	Golden, CO
	South Dakota School of Mines & Tech.	Rapid City, SD
IX	Micro-Chem Laboratories	San Jose, CA
	Dyer Laboratories, Inc.	Torrance, CA
	EAL Corporation	Richmond, CA
	Asbestos Detechon, Inc.	Huntington Beach, CA
	Science Applications, Inc.	La Jolla, CA
	Truesdale Laboratories, Inc.	Tustin, CA
X	Chemical & Geological Labs of Alaska	Anchorage, AK
	Northwest Testing Laboratories	Portland, OR

The laboratory selection process followed the steps outlined below:

1. All of the commercial laboratories participating in Round 11 of the U.S. EPA's Bulk Asbestos Sample Quality Assurance Program were grouped by EPA Region (1 through 10). Table 2 lists the number of commercial laboratories by EPA region.

2. Fifty-one laboratories, or approximately 25 percent of the 199 commercial laboratories listed in Interim Listing Number 18, EPA Bulk Analysis Round 11, were selected to participate in the third blind round. The number of laboratories selected per EPA region corresponds to the proportionate percentage of laboratories located in a given region. For example, Region 1 contained 21 (10.6 percent) of the 199 commercial laboratories that participated in Round 11 of the Bulk Sample Asbestos Quality Assurance Program. Therefore, Region I was allocated 5 (9.8 percent) of the 51 commercial laboratories stated for the third blind round. The allocations for the rest of the regions were determined in the samy way. (See Table 2).

3. Each commercial laboratory that participates in the Bulk Sample Asbestos Quality Assurance Program is assigned a four-digit identification number as explained below:

   - The first digit corresponds to the EPA region (1 through 9 for Regions I through IX, and 0 for Region X)
   - The second digit corresponds to the State (numbers 1 through 9 depending on the number of States located in the Region) where the laboratory is located.
   - The last two digits are a computer-assigned random number. A laboratory was selected for the third blind round when its computer-assigned random number matched the two-digit random number manually extracted from a random number table.

4. A commercial laboratory selected for the third blind round was replaced with another commercial laboratory located in the same EPA region when the originally selected laboratory

   - Did not accept samples for asbestos analysis,
   - Accepted bulk samples for asbestos analysis on a non-commercial basis only,
   - Did not respond to the surveyor's request for information,
   - Had ceased operations,

- Requested an analysis fee greater than $150 for three bulk asbestos samples, and/or,

- Recommended or referred the caller to another commercial laboratory.

TABLE 2. COMMERCIAL LABORATORY LIST BY EPA REGION, AS GIVEN IN INTERIM LISTING, NUMBER 18, COMMERCIAL LABORATORIES WITH POLARIZED LIGHT MICROSCOPE CAPABILITIES FOR BULK ASBESTOS IDENTIFICATION, MARCH 1985

EPA Region	States in EPA region	Number of commercial laboratories located in region	Percentage of commercial laboratories located per region	Number of commercial laboratories surveyed per region
I	Connecticut Maine Massachusetts New Hampshire Rhode Island Vermont	21	10.6	5
II	New Jersey New York	23	11.6	6
III	Delaware Maryland Pennsylvania Virginia West Virginia District of Columbia	26	13.1	7
IV	Alabama Florida Georgia Kentucky Mississippi North Carolina South Carolina Tennessee	41	20.6	10

TABLE 2. (continued)

EPA Region	States in EPA region	Number of commercial laboratories located in region	Percentage of commercial laboratories located per region	Number of commercial laboratories surveyed per region
V	Illinois Indiana Michigan Minnesota Ohio Wisconsin	32	16.1	8
VI	Arkansas Louisiana New Mexico Oklahoma Texas	13	6.5	3
VII	Iowa Kansas Missouri Nebraska	8	4.0	2
VIII	Colorado Montana North Dakota South Dakota Utah Wyoming	7	3.5	2

TABLE 2. (continued)

EPA Region	States in EPA region	Number of commercial laboratories located in region	Percentage of commercial laboratories located per region	Number of commercial laboratories surveyed per region
IX	Arizona California Hawaii Nevada	22	11.1	6
X	Alaska Idaho Oregon Washington	6	3.0	2
	TOTAL	199	100	51

SECTION 3

RESULTS AND DISCUSSION

The results of Bulk Sample Rounds 12, 13 and Blind Round III are described in this section. The total number of laboratories participating in each round is listed in the introductory paragraph of each round along with a summary of the laboratory's analytical results. In addition, a description of the bulk material samples used in each round is provided.

3.1 BULK SAMPLE ROUND 12

Round 12 samples were distributed on April 25, 1985. Four bulk samples were sent to each of 368 participating laboratories (261 commercial and 107 noncommercial). Quantitative results were available for 323 laboratories (253 commercial and 90 noncommercial).

Sample A contained approximately 95% amosite and approximately 5% platy material with a coating on some of the fibers. The material, called Unibestos, was removed from an ammunition plant in Lawrence, Kansas and provided by the EPA regional office in Kansas City, Kansas. Sample B contained approximately 95% chrysotile, approximately 5% opaques and 1-2% mica. The sample is a commercial grade of asbestos that was used primarily in insulating cements. The sample is a standard grade of asbestos (7M-13) as classified by the Quebec Standard Testing Method. The bulk material (7M-13) was donated by Johns-Mansville.

Sample C was a semi-rigid polyisocyanurate foam board insulation surfaced with a reinforced facer on the printed side and a solid aluminum foil facer on the other side. The reinforced facer consists of a triplex layer (foil-kraft paper-foil). The insulative board is marketed under the name Tuff-R®, by Celotex® Building Products Division, Celotex Corporation, for residential construction. The material was supplied by the manufacturer. Sample D was composed of aromatic polyamide fibers manufactured by E.I. DuPont de Nemour's & Co., and marketed as Kevlar® which was assigned the generic name "aramid" by the Federal Trade Commission. Kevlar® is under evaluation in applications

as a replacement for asbestos in the reinforcing of plastics or elastomers such as grinding wheels, brake linings and concrete pipe. The sample was supplied by the manufacturer.

The qualitative results for Round 12 are presented in Table 3. Of the 1292 samples analyzed in Round 12, 1273 (98.5 percent) were classified correctly while 1245 (96.4 percent) were classified and identified correctly. Misclassifications were reported for 19 samples and the type of asbestos was incorrectly identified in 28 samples.

There were 8 false negative samples and 13 identification errors in the analysis of Sample A. The false negative samples were indicated to contain fibrous glass and nonfibrous materials. The identification errors were the result of indicating the sample to contain anthophyllite, chrysotile or solely fiber glass.

In the Sample B analysis there were 6 false negatives and 15 identification errors reported. The false negative samples were the result of improper coding of the sample. The identification errors resulted from reporting the sample to contain either amosite, crocidolite or anthophyllite, in addition to chrysotile. One laboratory failed to indicate any mineral species.

There was only one false positive sample reported for Sample C. The foam board insulation was reported to contain amosite. In Sample D there were four false positives reported by indicating the aromatic polyamide fiber sample to contain either chrysotile, amosite or actinolite. Identification errors are only reported for asbestos samples.

The distribution of quantitative results for participating laboratories in percent asbestos reported per sample is presented in Figures 1-4. This information is provided to participating laboratories to allow inter-laboratory comparison of the quantitative results. Quantitative results are not used in determining the laboratory performance rating.

TABLE 3. ROUND 12 QUALITATIVE RESULTS

Sample ID	Sample contents	Number of samples analyzed	Number of correct classifications	Number of classification errors[b]		Number of identification errors [c]	Total number correctly classified and identified
				False negatives[a]	False positives		
A	Amosite >95% Platy Material <5%	323	315 (97.5%)	8	0	13	302 (93.5%)
B	Chrysotile >95% Opaques <5% Mica 1-2%	323	317 (98.1%)	6	0	15	302 (93.5%)
C	Fibrous Organic 1-3% Nonfibrous Organic >95% (Semi-rigid polyisocyanurate foam board insulation)	323	322 (99.7%)	0	1	0	322 (99.7%)
D	Aromatic Polyamide fibers 100%	323	319 (98.8%)	0	4	0	319 (98.8%)
	TOTAL	1292	1273 (98.5%)	14	5	28	1245 (96.4%)

[a] Correctly classified as an "asbestos containing material" as described in the Federal Register/Vol. 47, No. 103/Thursday, May 27, 1982/Rules and Regulations/pg. 23370/Section 763.103, Definitions.

[b] Samples may be classified as asbestos-containing (positive) or as nonasbestos (negative). Classification errors are false positives or false negatives.

[c] Identification errors are incorrect designations of the specific type(s) of asbestos present. Identification and classsfication errors are mutually exclusive categories, i.e., incorrect classifications are not counted as identification errors.

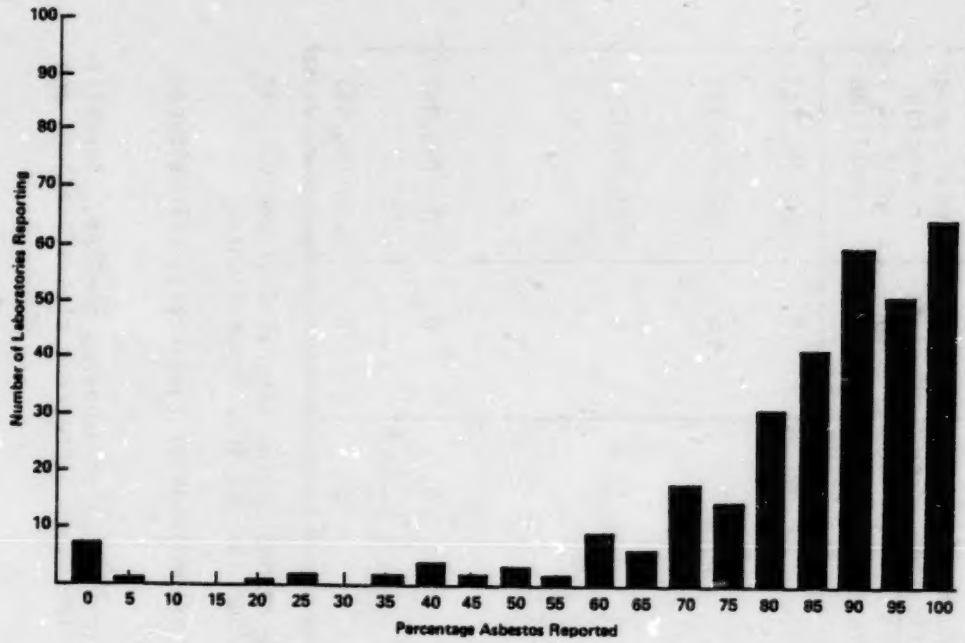

Figure 1. Round 12 quantitative results for sample A. The sample contained >95% amosite and <5% platy material.

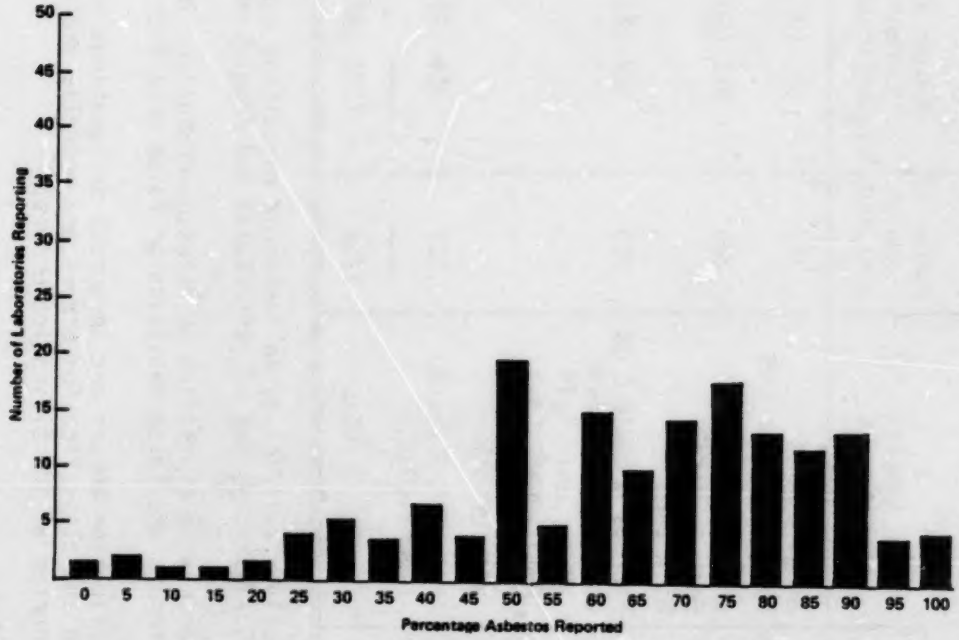

Figure 2. Round 12 quantitative results for sample B. The sample contained >95% chrysotile, <5% opaques and 1-2% mica.

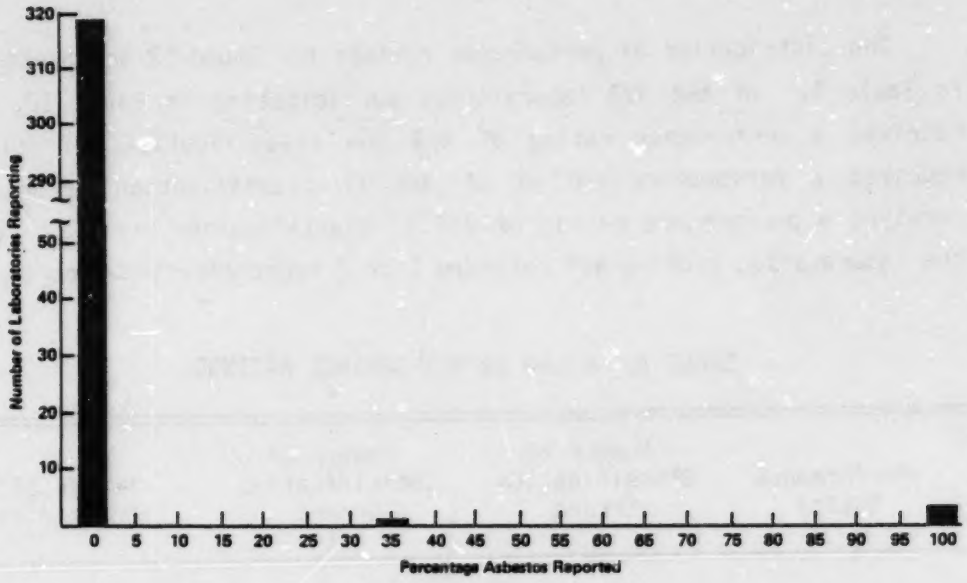

Figure 3. Round 12 quantitative results for sample C. The sample contained 1-3% organic (fibrous) and >95% organic (non-fibrous) materials.

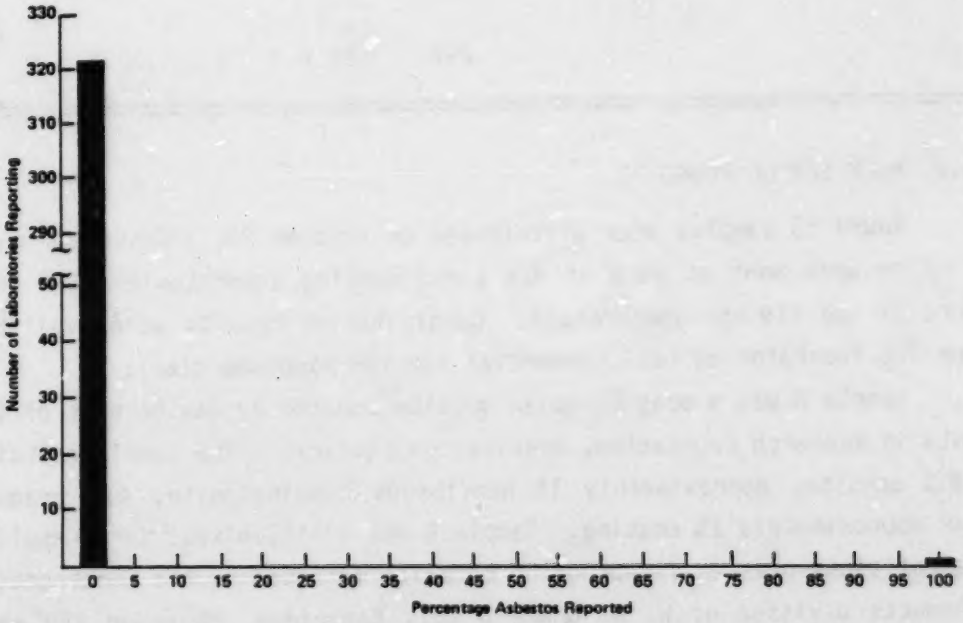

Figure 4. Round 12 quantitative results for sample D. The sample contained 100% organic (fibrous) material.

The distribution of performance ratings for Round 12 are presented in Table 4. Of the 323 laboratories participating in Round 12, 283 received a performance rating of 4/4 (no classification errors), 9 received a performance rating of 3/4 (1 classification error), 2 received a performance rating of 2/4 (2 classification errors). Only the laboratories scoring 4/4 recorded 1 or 2 identification errors.

TABLE 4. ROUND 12 PERFORMANCE RATINGS

Performance Rating	Number of Classification Errors	Number of Identification Errors			Number of Laboratories
		0	1	2	
4/4	0	283	24	2	309 (95.7%)
3/4	1	9	0	0	9 (2.8%)
2/4	2	5	0	0	5 (1.5%)
		297	24	2	323

3.2 BULK SAMPLE ROUND 13

Round 13 samples were distributed on October 25, 1985. Four bulk samples were sent to each of 426 participating laboratories (307 commercial and 119 non-commercial). Quanititative results were available for 386 laboratories (227 commercial and 109 noncommercial).

Sample A was a gray Canadian amosite donated by Jan Garbutt of the Ontario Research Foundation, Mississauga, Ontario. The sample contains >95% amosite, approximately 1% nonfibrous cummingtonite, <1% opaques and approximately 1% coating. Sample B was a mill-mixed, spray-applied cementitious plaster fireproofing material marketed by the Construction Products Division of W. R. Grace & Co., Cambridge, MA under the name Monokote® (MK-5). The sample contained 3-5% fibrous glass, 15-20% cellulose, 70-80% vermiculite and 3-5% coating and was obtained from the manufacturer.

Sample C was chrysotile asbestos (7TS6) that was donated by J. M. Asbestos, Inc. The sample contained >97% chrysotile and 2-3% opaques. Sample D was a ceiling tile sample that was removed from the National Center for Health Statistics, Research Triangle Park, North Carolina. The sample contained 60-70% fibrous glass, 30-40% cellulose, 1-2% quartz and 1-2% antigorite.

There were 2 false negative samples that occurred from improperly entering the information on the results coding form. The 15 identification errors of Sample A resulted from indicating either chrysotile or crocidolite to be present in the sample. One laboratory identified the sample as anthophyllite. There were 8 false positive samples indicated for Sample B. The laboratories indicated the sample to contain either actinolite, chrysotile or amosite. Identification errors are not incurred for negative samples.

Four (4) false negative samples were reported for Sample B. The 11 identification errors indicated the sample contained chrysotile with either amosite or tremolite.

Eight (8) false positive samples were recorded for Sample D. The laboratories in error indicated that the sample contained chrysotile or amosite. One laboratory reported the sample contained both chrysotile and amosite.

The qualitative results for Round 13 are presented in Table 5. Of the 1544 samples analyzed in Round 13, 1522 (98.6 percent) were classified while 1492 (96.6 percent) were classified and identified correctly. Misclassifications were reported for 22 samples and the type of asbestos was incorrectly identified in 26 samples.

The distribution of the quantitative results for the participating laboratories in percent of asbestos reported per sample is presented in Figures 5-8. This information is supplied to the participating laboratories to enable them to compare their quantitative results with each other. At present, quantitative results are not used in determining the laboratory performance rating.

TABLE 5. ROUND 13 QUALITATIVE RESULTS

Sample ID	Sample contents	Number of samples analyzed	Number of correct classifications	Number of classification errors[b]		Number of identification errors [c]	Total number correctly classified and identified
				False [a]negatives	False positives		
A	Amosite >95% Cummingtonite (NF) Opaques <1% Coating 1%	386	384 (99.5%)	2	0	15	367 (95.1%)
B	Fibrous glass 3-5% Cellulose 15-20% Vermiculite 70-80% Coating 3-5%	386	378 (97.9%)	0	8	0	378 (97.9%)
C	Chrysotile >97% Opaques 2-3%	386	382 (99.0%)	4	0	11	371 (97.1%)
D	Fibrous Glass 60-70% Cellulose 30-40% Quartz 1-2% Antigorite 1-2%	386	378 (97.9%)	0	8	0	378 (97.9%)
	TOTAL	1544	1522 (98.6%)	6	16	26	1494 (96.8%)

[a] Correctly classified as an "asbestos containing material" as described in the Federal Register/Vol. 47, No. 103/Thursday, May 27, 1982/Rules and Regulations/pg. 23370/Section 763.103, Definitions.

[b] Samples may be classified as asbestos-containing (positive) or as nonasbestos (negative). Classification errors are false positives or false negatives.

[c] Identification errors are incorrect designations of the specific type(s) of asbestos present. Identification and classsfication errors are mutually exclusive categories, i.e., incorrect classifications are not counted as identification errors.

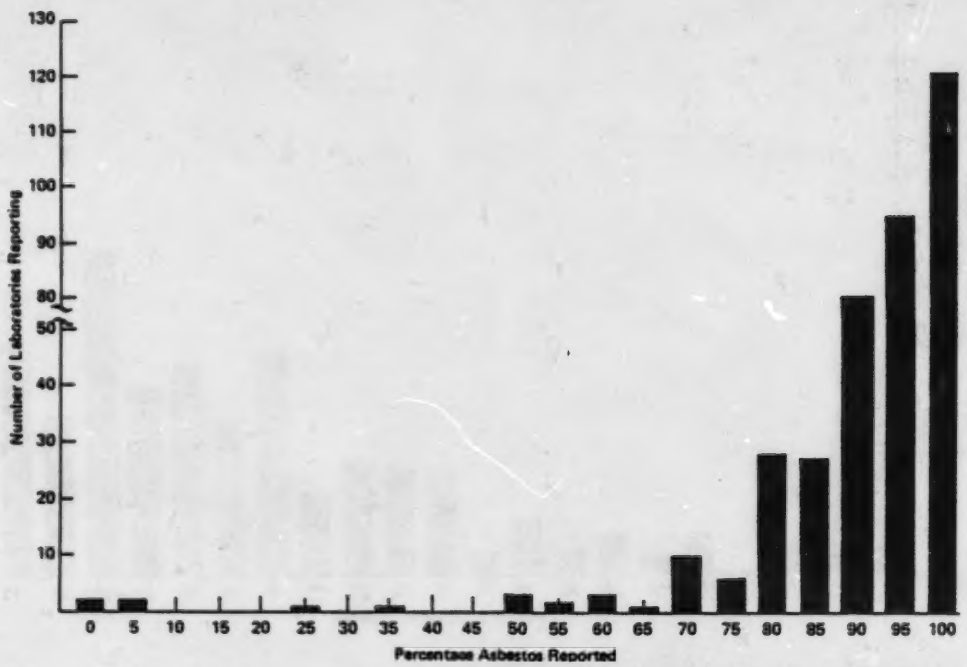

Figure 5. Round 13 quantitative results for sample A. The sample contained >95% amosite, 1% nonfibrous cummingtonite, <1% opaques and 1% coating.

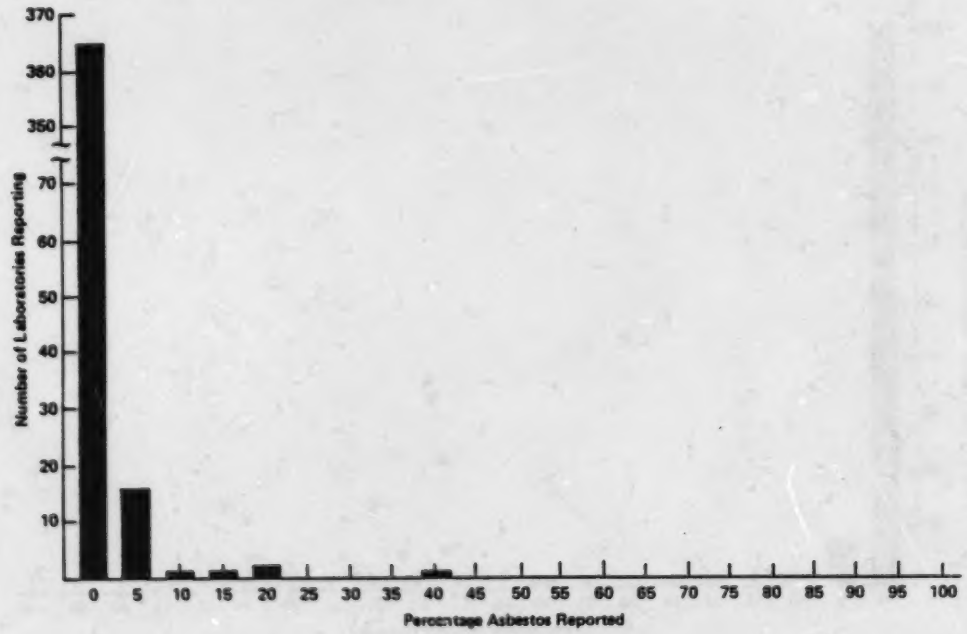

Figure 6. Round 13 quantitative results for sample B. The sample contained 3-5% fibrous glass, 15-20% cellulose, 70-80% vermiculite and 3-5% coating, no asbestos was present.

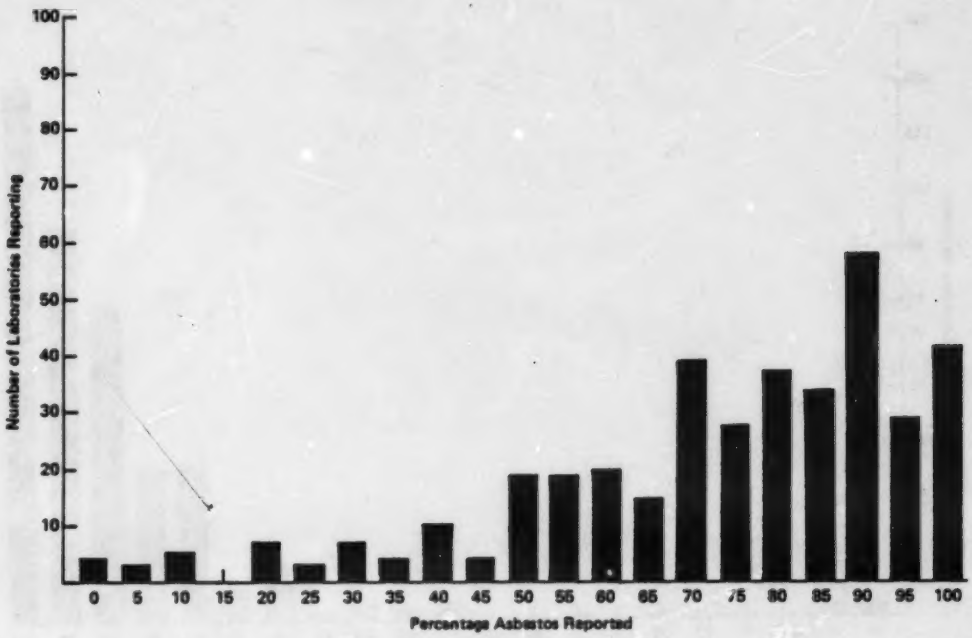

Figure 7. Round 13 quantitative results for sample C. The sample contained >97% chrysotile, 2-3% opaques.

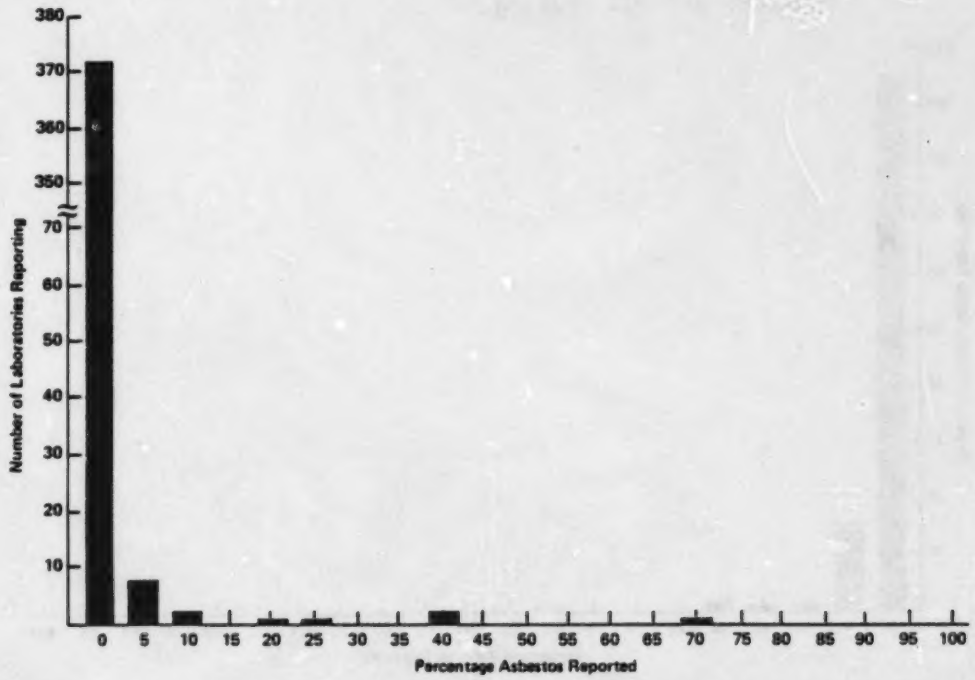

Figure 8. Round 13 quantitative results for sample D. The sample contained 60-70% fibrous glass, 30-40% cellulose, 1-2% quartz and 1-2% antigorite.

The distribution of performance ratings for Round 13 are presented in Table 6. Of the 386 laboratories participating in Round 13, 373 received a performance rating of 4/4 (no classification errors) and 8 received a performance rating of 3/4 (1 classification error). The laboratories scoring 4/4 recorded from 0 to 2 identification errors, the laboratories scoring 3/4 recorded from 0 to 2 identification errors and the laboratories scoring 2/4 recorded 0 to 1 identification errors.

TABLE 6. ROUND 13 PERFORMANCE RATINGS

Performance Rating	Number of Classification Errors	Number of Identification Errors			Number of Laboratories
		0	1	2	
4/4	0	351	18	1	370 (95.9%)
3/4	1	6	3	1	10 (2.6%)
2/4	2	5	1	0	6 (1.6%)
		362	22	2	386

3.3 BLIND ROUND III

Three bulk asbestos samples were sent to 51 commercial laboratories in July of 1985. RTI surveyors, posing as private home owners, distributed the bulk samples. All 51 laboratories were paid for the bulk analyses and returned results to the RTI surveyors.

All three bulk materials used in Blind Round III were "real world" materials that had been removed from buildings during renovation or removal operations. Sample A was a furnace insulation, Sample B was ceiling material, and Sample C was pipe insulation. Each material had been used in a previous round of the U.S. Environmental Protection Agency's Bulk Sample Analysis Quality Assurance Program.

Two of the three bulk material samples (Samples A and B) contained greater than 1 percent asbestos. Sample A contained mixed amounts of chrysotile and amosite and Sample B contained layered amosite and chrysotile. The remaining material used in Blind Round III (Sample C) contained less than 1 percent asbestos. Sample C contained mixed cellulose, graphite fiber and vermiculite.

The qualitative results for Blind Round III are presented in Table 7. Of the 153 samples analyzed in the Blind Round, 121 (79.1%) were classified and identified correctly. Misclassifications were reported in 5 samples and the type of asbestos was incorrectly identified in 37 samples.

For Sample A, all of the 51 commercial laboratories correctly classified the bulk material as containing greater than 1 percent asbestos. Thirty-seven of these 51 laboratories correctly identified both amosite and chrysotile in the sample. Ten of the identification errors resulted because the laboratories reported only one of the two types of asbestos present in the sample, suggesting that these laboratories are not conducting thorough subsampling.

For Sample B, 50 of the 51 commercial laboratories correctly classified the bulk material as containing greater than 1 percent asbestos. Twenty-seven of the commercial laboratories correctly identified the type of asbestos in the sample as amosite and chrysotile. Twenty-three identification errors were reported for Sample B. The majority (21 out of 23) of the identification errors resulted when only one of the two types of asbestos present in the sample were reported. This again, suggests these laboratories are not conducting thorough subsampling of their samples.

For Sample C, 47 of the 51 commercial laboratories correctly classified the bulk material as containing less than 1 percent asbestos. The laboratories that misclassified Sample C identified the contents of the sample as amosite. Identification errors are not applicable to nonasbestos containing materials.

TABLE 7. BLIND ROUND III QUALITATIVE RESULTS

Sample ID	Sample contents	Number of samples analyzed	Number of correct classifications	Number of classification errors[b]		Number of identification errors[c,d]	Total No. Correctly Classified and Identified
				False negatives	False positives		
A	Amosite, 50% Chrysotile, 30% Kaolinite, 20%	51	51 (100%)	0	0	14 (6.8%)	37 (72.5%)
B	Chrysotile, 50-60% Amosite, 35-45% Carbonate, <1%	51	50 (98.0%)	1	0	23 (11.3%)	27 (52.9%)
C	Vermiculite, <85% Cellulose, 15-25% Graphite Fiber, <2%	51	47 (92.2%)	0	4	0 (0%)	47 (92.2%)
	TOTAL	153	148 (96.7%)	1	4	37 (18.1%)	121 (79.1%)

[a] Correctly classified as an "asbestos containing material" as described in the Federal Register/Vol. 4 No. 103/Thursday, May 27, 1982/Rules and Regulations/pg. 23370/Section 763.103, Definitions.

[b] Samples may be misclassified as asbestos-containing (false positive) or as nonasbestos (false negative).

[c] Identification errors are incorrect designation of the specific type of asbestos present. Identification and classification errors are mutually exclusive categories, i.e., incorrect classifications are not counted as identification errors.

[d] Two identification errors each are possible for samples A and B. Therefore the divisor would be 204 rather than 102 to obtain the percent values under "Number of Identification errors."

The distribution of the quantitative results for the participating laboratories in percent of asbestos reported per sample is presented in Figures 9-11. The quantitative results are not used in determining performance ratings.

The distribution of the performance ratings for Blind Round III is presented in Table 8. Of the 51 laboratories participating in the Blind Round, 46 achieved a performance rating of 3/3 (no classification errors), and 5 achieved a performance rating of 2/3 (1 classification error). The laboratories scoring 3/3 recorded from 0 to 4 identification errors. The laboratories scoring 2/3 recorded from 0-2 identification errors.

TABLE 8. BLIND ROUND III PERFORMANCE RATINGS

Performance Rating	Number of Classification Errors	Number of Identification Errors					Number of Laboratories
		0	1	2	3	4	
3/3	0	22	19	3	0	2	46 (90.2%)
2/3	1	1	3	1	0	0	5 (9.8%)
1/3	2	0	0	0	0	0	0 (0%)
						TOTAL	51

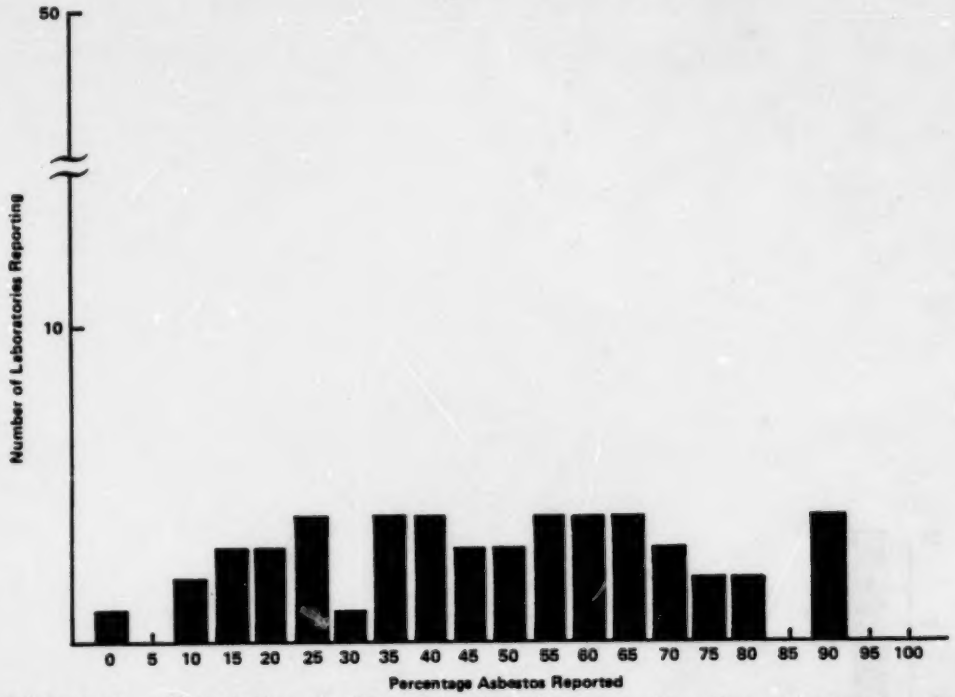
50
10
Number of Laboratories Reporting
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
Percentage Asbestos Reported

Figure 9. Blind Round III quantitative results for sample A. The sample contained 50% amosite, 30% chrysotile and 20% kaolinite.

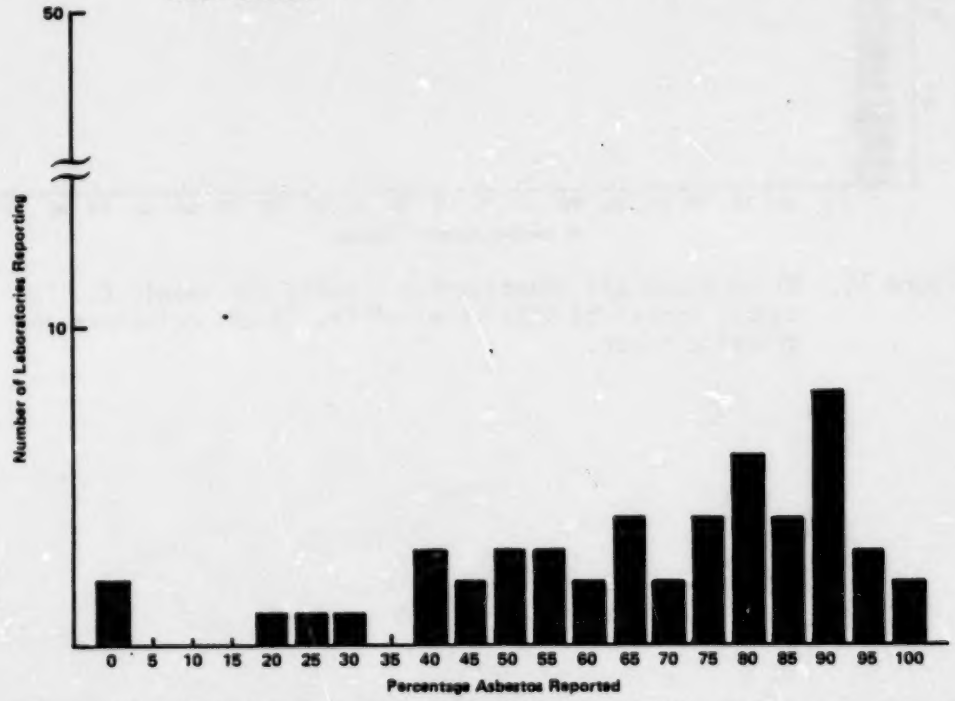
50
10
Number of Laboratories Reporting
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
Percentage Asbestos Reported

Figure 10. Blind Round III quantitative results for sample B. The sample contained 50-60% chrysotile, 35-45% amosite and <1% carbonate.

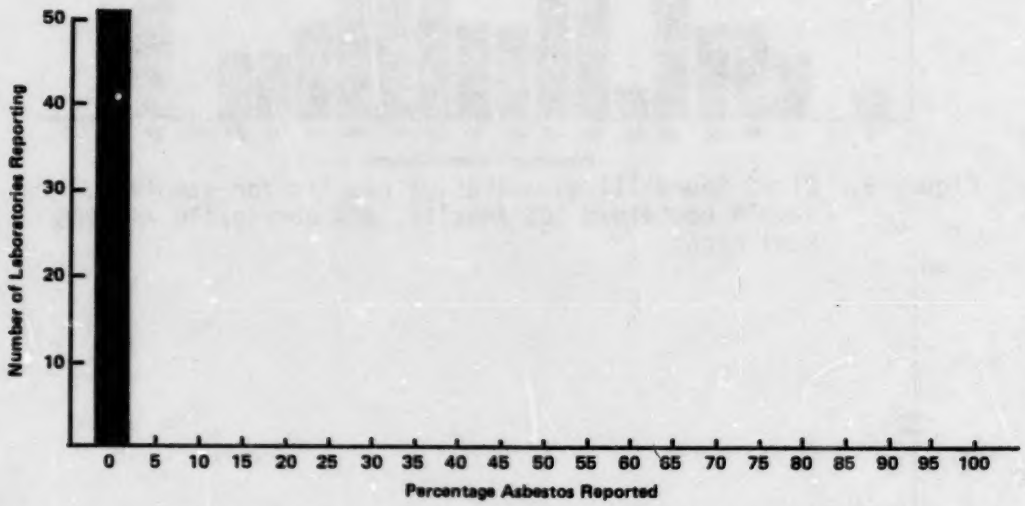
Number of Laboratories Reporting
50
40
30
20
10
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
Percentage Asbestos Reported

Figure 11. Blind Round III quantitative results for sample C. The sample contained <85% vermiculite, 15-25% cellulose and <2% graphite fiber.

SECTION 4.0
SUMMARY

The results of QA Rounds 12, 13 and Blind Round III of the Bulk Sample Analysis Quality Assurance Program are presented in this report. The Bulk Sample Analysis Program is sponsored by the U.S. Environmental Protection Agency's Asbestos-in-Schools Program.

In both the QA and Blind Rounds, laboratories analyze bulk material samples for asbestos content. Polarized light microscopy (PLM), with and without dispersion staining, is the analytical method used by the participating laboratories to analyze the bulk material samples. The commercial and non-commercial laboratories voluntarily participate in the QA Bulk Sample portion of the program.

Three aspects of analytical technique were considered in QA Rounds 12, and 13. First, the bulk material is classified as either asbestos containing (greater than 1 percent asbestos) or nonasbestos containing (1 percent or less). Second, the specific type of asbestos (chrysotile, amosite, crocidolite), nonasbestos fibrous material (fibrous glass, cellulose), or nonfibrous material (calcium carbonate) in the bulk sample is identified. Third, the percentages of asbestos and other major sample constituents are stated. A performance rating is calculated for each participating laboratory based on the number of bulk samples correctly classified as containing asbestos (greater than 1 percent).

The blind round evaluates commercial laboratories on their ability to determine (1) whether a bulk material contains greater than one percent asbestos, and (2) what type of asbestos the bulk material contains. The laboratories are randomly selected from those listed in the EPA document entitled "Commercial Laboratories with Polarized Light Microscope Capabilities for Bulk Asbestos Identification" (see Appendix C). The laboratories scrutenized in the blind round were unaware at the time of the analyses that the bulk materials originated from RTI under the auspicies of the U.S. Environmental Protection Agency's Asbestos-In-Schools Program.

The number of laboratories participating in QA Rounds 12 and 13 were 323 and 386, respectively. The number of classification errors in QA Rounds 12 and 13 were 19 and 22, respectively. Each laboratory participating in the program received the same four bulk sample materials to analyze.

Fifty-one commercial laboratories participated in Blind Round III. There were 5 classification errors in Blind Round III. Each laboratory participating in the Blind Round received the same 3 bulk material samples to analyze.

Continuation of the Bulk Sample Analysis Quality Assurance Program is anticipated. Any commercial or non-commercial laboratory that performs polarized light microscopic analysis of bulk material samples may participate. Presently, two QA Rounds and one Blind Round are planned for each upcoming fiscal year. This report covers the period from February 1, 1985 to December 26, 1985. Work was completed as of February 28, 1986.

Appendix A

Reporting Form, Coding Form, and Instructions

Results Reporting Form

BULK SAMPLING ANALYSIS
QUALITY ASSURANCE PROGRAM

Noncommercial Laboratory

Laboratory I.D. #					
Sample I.D. #					
Sample Code Assigned by Laboratory					
Analytical Method (enter number)	1. PLM 2. PLM with dispersion staining 3. PLM + X-ray diffraction				
Gross Sample Appearance	Is the sample homogeneous?				
	Does it contain obvious layers?				
	Is the sample fibrous?				
	Sample color				
Sample Treatment (enter number)	1. None 2. Homogenized 3. Other, *specify*				
Does the Sample Contain Any Asbestos Fibers?					
Asbestos Present (enter number and percent)	1. Amosite 2. Chrysotile 3. Crocidolite 4. Other, *specify*				
Total Percent Asbestos Present in Sample					
Other Fibrous Materials Present (enter number and percent)	1. Fibrous glass 2. Cellulose 3. Other, *specify*				
Nonfibrous Materials Present (description and percent)					

(Continued: Please provide requested information on reverse side of this form.)

Description of Method of Quantitation

Description of Quality Control Program (e.g., # slides/sample, # splits/set, use of QC samples)

Comments

Analyst (signature required): _____

Affirmation: I hereby affirm that the information appearing on this Results Reporting Form was acquired in analyses performed by the organization submitting the results, _____ (name of laboratory); that the analyses were performed by the person whose signature appears above as "Analyst"; that said analyst is an employee, officer of, or consultant to the above-named organization; that the instruments used in the analyses are the property of said organization; and that the analyses represented by this Results Reporting Form are typical of analytical services available to the public from said organization.

Signature _____ Title _____ Date _____

Contact Name:

Affiliation:

Address:

City, State and Zip Code:

Telephone: ( ) - **Ext.**

Asbestos Bulk Sample Analysis Quality Assurance Program Results Coding Form
Noncommercial Laboratory

Laboratory I.D.#[a] (4-7) ☐☐☐☐ Round #[b] (9-10) ☐☐

Sample I.D. #[c]	Neg/Pos[d]	Asbestos Fibers Present		Other Fibrous Materials Present		Non-Fibrous Material
		Type 1[e]	Type 2[e]	Type 1[g]	Type 2[g]	Type[h]
12-15	26	28-31	38-41	48-51	58-61	68-71
☐☐☐☐	☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐
		Percent 1[f]	Percent 2[f]	Percent 1[f]	Percent 2[f]	Percent[f]
		33-36	43-46	53-56	63-66	73-76
		☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
		Type 1[e]	Type 2[e]	Type 1[g]	Type 2[g]	Type[h]
12-15	26	28-31	38-41	48-51	58-61	68-71
☐☐☐☐	☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐
		Percent 1[f]	Percent 2[f]	Percent 1[f]	Percent 2[f]	Percent[f]
		33-36	43-46	53-56	63-66	73-76
		☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
		Type 1[e]	Type 2[e]	Type 1[g]	Type 2[g]	Type[h]
12-15	26	28-31	38-41	48-51	58-61	68-71
☐☐☐☐	☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐
		Percent 1[f]	Percent 2[f]	Percent 1[f]	Percent 2[f]	Percent[f]
		33-36	43-46	53-56	63-66	73-76
		☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
		Type 1[e]	Type 2[e]	Type 1[g]	Type 2[g]	Type[h]
12-15	26	28-31	38-41	48-51	58-61	68-71
☐☐☐☐	☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐	☐☐☐☐
		Percent 1[f]	Percent 2[f]	Percent 1[f]	Percent 2[f]	Percent[f]
		33-36	43-46	53-56	63-66	73-76
		☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐

[a] Laboratory I.D. # is first four digits on each sample.

[b] Round # is middle two digits.

[c] Sample I.D. # is final four digits on each sample.

[d] Negative = ≤ 1% asbestos, enter 0; positive = > 1% asbestos, enter 1.

[e] Enter type(s) of asbestos: AMOS = Amosite, CHRY = Chrysotile, CROC = Crocidolite, ANTH = Anthophyllite, TREM = Tremolite, ACTN = Actinolite, UNSP = unspecified.

[f] Enter percent, note decimal placing.

[g] Enter other fibrous material type(s): CELL = Cellulose, FBGL = Fibrous glass (includes fiberglass and mineral wool), OTHR = other.

[h] Enter predominant non-fibrous material: CACO = Calcium carbonate, CARB = Carbon, CASO = Calcium sulfate (Gypsum), Non-fibrous glass, OTHR = other, UNSP = unspecified or unknown.

NOTE: For materials that do not have an abbreviation, make a four letter abbreviation and explain below.

BULK SAMPLES QUALITY ASSURANCE PROGRAM

Research Triangle Institute 1-800-334-8571, Ext. 5945

INSTRUCTIONS

1. Verify that this kit contains four bulk material samples.

2. If this kit is incomplete or contains open sample packages:
   PHONE: 1-800-334-8571
   ASK FOR: Melvin L. Parris, Ext. 5945

3. Perform a complete analysis of each sample by polarized light microscopy, with or without dispersion staining. X-ray diffraction should be used only as a confirming technique.

4. Results Reporting Form (Front)

   - Record the results of the PLM analysis on the Results Reporting Form.

   - Record the laboratory identification number and sample identification numbers on Results Reporting Form. The space labelled "Sample Code Assigned by Laboratory" should be used to record accession numbers or other sample identifiers used in laboratory records.

     EXAMPLE: Sample Labels: 2750-13-3728
     2750-13-1494
     2750-13-9673
     2750-13-7307

     Laboratory ID #2750

Sample ID#	13-3728	13-1494	13-9673	13-7307

   - Fill in all blocks for each analysis performed, using zeros or "none" where necessary. In categories offering numbered choices, write the correct number in the appropriate block, followed by a percent value or comment. Reporting forms with incomplete information will not be evaluated.

   - Answer the question: "Does the sample contain any asbestos fibers?", either "yes" or "no". Answer "yes" if any asbestos fibers are seen and "no" if none are seen. The answer "yes" is not a statement that the sample is an "asbestos-containing material" (see below).

   - Under "Asbestos Present", report the amount of each type of asbestos present as a percentage of the total material in the sample. Do not report the amount of asbestos as a percentage of fibrous components only. If no asbestos is present, report "None" or "0%". If asbestos is present and the amount is less than or equal to 1 percent, report "trace", "<1%", or "≤1%". If the amount of asbestos in the sample is more than 1 percent, report the amount to be present. In accordance with definitions included in current EPA regulations, an "asbestos-containing material" is defined as any material containing more than 1 percent asbestos. Therefore, samples containing 0 to 1 percent asbestos are negatives, and samples containing more than 1 percent asbestos are positives.

   - The "Total Percent Asbestos Present in Sample" is the sum of the percentages of all asbestos types reported under "Asbestos Present".

   - Report all nonasbestos fibers under "Other Fibrous Materials Present". Report both fiberglass and mineral wool as fibrous glass. Report all plant fibers as cellulose. Identify other nonasbestos fibers if possible. Report the amount of each type of nonasbestos fiber as a percentage of the total material in the sample.

   - Any nonfibrous materials should be identified, if possible, and reported under "Nonfibrous Materials Present". Report the amount of each type of nonfibrous material as a percentage of the total material in the sample.

5. Results Reporting Form (Reverse)

   - Complete the reverse side of the Results Reporting Form.
   - Provide descriptions of the procedures used for quantitative analysis and of the routine quality control measures used for bulk sample analysis. Information provided in previous rounds need not be repeated if still applicable. Additional information regarding sample preparation and analytical procedures may be supplied in the space provided for comments.
   - The analyst's signature is required. Reporting forms submitted without required signatures will not be evaluated.
   - The affirmation states that the results being reported were obtained in analyses performed by the laboratory submitting those results. Complete the statement with the name of the laboratory as it appears in the cover letter address. The signature of the laboratory manager or other company officials responsible for analytical services (the analyst, if applicable) is required. Reporting forms submitted without required signatures will not be evaluated.
   - Please provide changes or corrections in the laboratory mailing address if applicable.

6. Results Coding Form

   Transfer the data from the Results Reporting Form to the Results Coding Form using the codes provided at the bottom of the form. Notice that the percentages are to be recorded underneath the material type in the first four columns. Fill in only those blocks that apply, and leave the others blank. Please print legibly because the data on the Results Coding Form is the data on which your performance rating will be based.

7. Layered Samples

   Often samples of insulation materials will contain more than one "layer" or type of material. When it is apparent that a sample contains more than one layer, each layer should be analyzed separately. For the purposes of this program, assume that each layer comprises an equal volume of the sample, and report only one value for each sample regardless of the number of layers that are present. For example: If a sample is made up of two different layers, and one layer is 60% amosite and the other layer is 40% chrysotile, the correct reporting values would be 30% amosite, 20% chrysotile, and 50% total asbestos.

8. Retain all samples for future reference following receipt of the round results and statistical summary.

9. Return the Results Reporting Form and Results Coding Form by the date indicated in the cover letter. Mail to:

   Melvin L. Parris
   Research Triangle Institute
   Building 5
   Post Office Box 12194
   Research Triangle Park, North Carolina 27709-2194

   LATE RETURNS WILL NOT BE EVALUATED

Appendix B

Sample Report to Laboratories

ASBESTOS BULK SAMPLE ANALYSIS Q.A. PROGRAM
RESULTS OF ROUND 13
DECEMBER 12, 1985

Mr. Gene Yonkin
Chemical & Geological Labs of Alaska
5633 B Street
Anchorage, AK 99502

Laboratory
I.D. Number
0102

False Negatives:
False Positives:
Performance Rating: /4

LABORATORY DID NOT PARTICIPATE IN ROUND 13

Lot & Sample I.D. Number	A) 9511	B) 7629	C) 1433	D) 0545
Results from Laboratory Number 0102				
Asbestos (%)				
Other Fibrous Material (%)			5.0 FBGL	100.0 OTHR
Nonfibrous Material (%)				
Qualitative Results From Reference Laboratory				
Asbestos	AMOS	NONE	CHRY	NONE
Other Fibrous Material	NONE	NONE	NONE	NONE
Nonfibrous Material	NONE	FBGL	NONE	FBGL
	NONE	CELL	NONE	CELL
	CNGT	VERM	OPQS	ANTG
Summary of Quantitative Results				
Percent Asbestos-Percentiles				
50% - Median (N=323)	95.0	0.0	80.0	0.0
100% - Maximum	100.0	40.0	100.0	70.0
95%	100.0	0.1	99.0	0.0
75%	98.0	0.0	90.0	0.0
25%	90.0	0.0	60.0	0.0
5%	69.3	0.0	21.7	0.0
0% - Minimum	0.0	0.0	0.0	0.0
Percent Other Fibrous Material				
OFM - Median (N)		45.0(3659)		95.0(372)
Percent Nonfibrous Material				
NF - Median (N)	5.0(257)	50.0(343)	20.0(319)	10.0(232)

Asbestos Abbreviations
AMOS=AMOSITE CHRY=CHRYSOTILE
Other Fibrous Material Abbreviations
CELL=CELLULOSE FBGL=FIBROUS GLASS
Nonfibrous Material Abbreviations
CNGT=CUMMINGTONITE OPQS=OPAQUES VERM=VERMICULITE ANTG=ANTIGORITE

Appendix C

Interim Listing Number 20

Commercial Laboratories with Polarized Light Microscope Capabilities for Bulk Asbestos Identification

Interim Listing
Number 20
EPA Bulk Analysis Round 13

Prepared by

Research Triangle Institute
P.O. Box 12194
Research Triangle Park, NC 27709

Prepared for

Environmental Monitoring Systems Laboratory
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

Office of Toxic Substances
U.S. Environmental Protection Agency
Washington, DC 20460

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INTRODUCTION

The following laboratories participated in the current round of the U.S. Environmental Protection Agency's (EPA) bulk asbestos sample quality assurance program. Laboratories are listed with their performance scores for this and previous rounds in which they participated. Laboratory performance was assessed on the basis of correct identification of "positive" (containing >1 percent asbestos) and "negative" (containing $\leq$1 percent asbestos) samples. Reductions of correct scores (3/3, 4/4, or 8/8) were made only for the reporting of false positives (nonasbestos sample reported as containing >1 percent asbestos) or false negatives (1 percent or less asbestos reported in an asbestos-containing sample), and not for the misidentification of individual asbestos mineral species. Although the criterion is lenient, it recognizes the basic concern of the public--the presence or absence of asbestos fibers in a submitted sample. Four separate bulk samples were sent to each laboratory in Rounds 1, 2, and 4 through 13; eight were sent in Round 3. Three samples were evaluated in Round 9. All analyses were performed by polarized light microscopic (PLM) analysis. Where numerical evaluations are omitted, an alphabetical character is included to reference the description below.

Letter	Description
D	The laboratory was disqualified in that round.
I	The laboratory is listed as inactive after one nonparticipatory round.
N	The laboratory received samples but did not participate in the round.
P	The laboratory participated as a noncommercial laboratory; performance scores therefore are not reported.
U	The laboratory did not receive samples in that round.

The quality assurance program is not designed for laboratory accreditation and does not certify, recommend, or endorse participating laboratories. This list of program participants is provided as a source of analytical laboratories by the EPA Asbestos-in-Schools Program. Updated lists of participating laboratories and further information on the quality assurance program, sampling and analysis of asbestos-containing materials, and the EPA Asbestos-in-Schools Program is available from the Asbestos Technical Information Service at (800)334-8571 (Extension 6741).

REGION 1

Margaret Y. Brooks	RND 1: U	RND 2: U	RND 3: U
Brooks Laboratories	RND 4: U	RND 5: U	RND 6: U
44 Codfish Lane	RND 7: U	RND 8: U	RND 9: U
Weston, CT 06883	RND10: U	RND11: U	RND12: U
203/226-6970	RND13: 4/4		
Mr. Jim Kenny	RND 1: U	RND 2: U	RND 3: U
EHL	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Division of Cigna Corp.	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
94 Murphy Road	RND10: 4/4	RND11: 4/4	RND12: 4/4
Hartford, CT 06114	RND13: 4/4		
203/522-3814			
Dr. John A. Reffner	RND 1: U	RND 2: U	RND 3: U
American Cyanamid Research	RND 4: U	RND 5: 4/4	RND 6: 4/4
1937 W. Main Street	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Stamford, CT 06904	RND10: 4/4	RND11: 4/4	RND12: 4/4
203/348-7331	RND13: 4/4		
Ms. Janet B. Kapish	RND 1: P	RND 2: P	RND 3: 8/8
CT St Dept of Health Lab	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
P. O. Box 1689	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
203/566-5626	RND10: 4/4	RND11: N	RND12: 4/4
Hartford, CT 06101	RND13: 4/4		
Mr. Edward B. Engel	RND 1: U	RND 2: U	RND 3: 6/8
Engineering Department W101	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Aetna Life & Casualty	RND 7: 2/4	RND 8: 4/4	RND 9: 3/3
151 Farmington Avenue	RND10: 4/4	RND11: 4/4	RND12: 4/4
Hartford, CT 06156	RND13: 4/4		
203/683-3665			
Ralph B. Wiech	RND 1: U	RND 2: U	RND 3: U
Environmental Associates, Inc.	RND 4: 3/4	RND 5: 4/4	RND 6: 4/4
1222 Fairfield Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Bridgeport, CT 06605	RND10: 4/4	RND11: 3/4	RND12: 4/4
203/368-6064	RND13: 4/4		
William G. Oldman	RND 1: U	RND 2: U	RND 3: U
TRC Environmental Consultants, Inc.	RND 4: U	RND 5: U	RND 6: U
800 Connecticut Blvd.	RND 7: U	RND 8: U	RND 9: U
East Hartford, CT 06108	RND10: U	RND11: U	RND12: 4/4
203/289-8631	RND13: 4/4		

REGION 1

Floyd B. Parsons, Jr., CI	RND 1: U	RND 2: U	RND 3: U
The Hartford Steam Boiler I & I Co.	RND 4: U	RND 5: U	RND 6: U
Environmental Services Laboratory	RND 7: U	RND 8: U	RND 9: U
One State Street	RND10: U	RND11: U	RND12: U
Hartford, CT 06102	RND13: 4/4		
203/722-5476			
Ronald E. McCullen	RND 1: U	RND 2: U	RND 3: U
Travelers Insurance-Engr Lab	RND 4: U	RND 5: U	RND 6: U
248 Continental Plaza	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Hartford, CT 06115	RND10: 4/4	RND11: 4/4	RND12: 4/4
203/277-7533	RND13: 4/4		
Robert C. Brown	RND 1: U	RND 2: U	RND 3: U
Hygenix, Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 7738	RND 7: U	RND 8: U	RND 9: U
Greenwich, CT 06836	RND10: U	RND11: U	RND12: 4/4
203/324-2222	RND13: 4/4		
Sally E. Reffner	RND 1: U	RND 2: U	RND 3: U
TAKA	RND 4: U	RND 5: U	RND 6: 4/4
97 Ocean Drive East	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Stamford, CT 06902	RND10: 4/4	RND11: 4/4	RND12: 4/4
203/356-8977	RND13: 4/4		
Stephan W. Campbell	RND 1: U	RND 2: U	RND 3: U
The Hartford Insurance Group	RND 4: U	RND 5: U	RND 6: U
Environmental Sciences Lab	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Hartford Plaza	RND10: 4/4	RND11: 4/4	RND12: 4/4
Hartford, CT 06115	RND13: 4/4		
203/547-4557			
Thomas F. Hatch	RND 1: U	RND 2: U	RND 3: U
Peck Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 947	RND 7: U	RND 8: U	RND 9: N
Kennebunk, ME 04043	RND10: 3/4	RND11: 3/4	RND12: 4/4
207/985-6116	RND13: 4/4		
Theodore M. Reed	RND 1: U	RND 2: U	RND 3: U
Main Environmental Services, Inc.	RND 4: U	RND 5: U	RND 6: U
P.O. Box 7101	RND 7: U	RND 8: U	RND 9: U
Lewiston, MA 04240	RND10: U	RND11: U	RND12: U
207/443-6261	RND13: 4/4		

REGION 1

Stephen Broadhead	RND 1: U	RND 2: U	RND 3: U
Northeast Test Consultants	RND 4: U	RND 5: U	RND 6: U
P. O. Box 375	RND 7: U	RND 8: U	RND 9: U
Cumberland Center, ME 04021	RND10: U	RND11: U	RND12: 4/4
207/829-6212	RND13: 4/4		
Rosemary Ellersick	RND 1: 4/4	RND 2: N	RND 3: 8/8
GCA Technology Division	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
2123 Burlington Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Bedford, MA 01730	RND10: 4/4	RND11: 4/4	RND12: 4/4
617/275-5444	RND13: 4/4		
Cathy L. Oakes	RND 1: U	RND 2: U	RND 3: U
K-Chem Laboratories	RND 4: U	RND 5: U	RND 6: U
46 Clayton Street	RND 7: N	RND 8: 4/4	RND 9: 3/3
Boston, MA 02122	RND10: 4/4	RND11: 4/4	RND12: 4/4
617/436-7181	RND13: 4/4		
Haldean Dalzell, Ph.D.	RND 1: U	RND 2: U	RND 3: U
Skinner & Sherman Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: 4/4
300 Second Avenue / P.O. Box 521	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Waltham, MA 02254	RND10: 4/4	RND11: 4/4	RND12: N
617/890-7200	RND13: 4/4		
Karen M. Flannery	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Eastern Analytical Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
149 Rangeway Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
No. Billerica, MA 01862	RND10: 4/4	RND11: 4/4	RND12: 4/4
617/272-5212	RND13: 4/4		
James E. Dennison	RND 1: U	RND 2: U	RND 3: U
Dennison Environmental	RND 4: U	RND 5: U	RND 6: U
P. O. Box 2526	RND 7: U	RND 8: U	RND 9: U
Woburn, MA 01888	RND10: U	RND11: 4/4	RND12: 4/4
617/938-8508	RND13: 4/4		
Glenn Sylvester	RND 1: U	RND 2: U	RND 3: U
Certified Engineering & Testing Co. Inc.	RND 4: U	RND 5: U	RND 6: U
25 Mathewson Drive	RND 7: U	RND 8: 4/4	RND 9: 3/3
Weymouth, MA 02189	RND10: 4/4	RND11: 3/4	RND12: 4/4
	RND13: 4/4		

REGION 1

Kenneth J. Muzal	RND 1: U	RND 2: U	RND 3: U
Liberty Mutual Insurance Co.	RND 4: U	RND 5: U	RND 6: U
Analytical Laboratory	RND 7: U	RND 8: U	RND 9: U
71 Frankland Rd.	RND10: U	RND11: U	RND12: 2/4
Hopkinton, MA 01748	RND13: 4/4		
617/435-9061			
Fred Boyle	RND 1: U	RND 2: U	RND 3: U
Hub Testing Laboratory	RND 4: 3/4	RND 5: 4/4	RND 6: N
95 Beaver Street	RND 7: 3/4	RND 8: 4/4	RND 9: 2/3
Waltham, MA 02154	RND10: N	RND11: 4/4	RND12: N
617/893-8330	RND13: 4/4		
Kevin Kelley	RND 1: U	RND 2: U	RND 3: U
W. Bruce Hunter Associates	RND 4: U	RND 5: U	RND 6: U
P. O. Box 284	RND 7: U	RND 8: U	RND 9: U
Lincoln, MA 01773	RND10: U	RND11: U	RND12: 4/4
617/259-0800	RND13: 4/4		
Mr. James Litrides	RND 1: U	RND 2: 3/4	RND 3: 8/8
Briggs Associates Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
400 Hingham Street	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Rockland, MA 02370	RND10: 4/4	RND11: 3/4	RND12: 4/4
617/871-6040	RND13: 4/4		
Samuel J. Covino, Jr.	RND 1: U	RND 2: U	RND 3: U
Covino Environmental Consultants, Inc.	RND 4: U	RND 5: U	RND 6: U
104 Main Street	RND 7: U	RND 8: U	RND 9: U
Stoneham, MA 02180	RND10: U	RND11: U	RND12: U
617/438-4228	RND13: 4/4		
Thomas E. Veratti	RND 1: U	RND 2: U	RND 3: U
CON-TEST, Inc.	RND 4: U	RND 5: U	RND 6: U
126 Shaker Road	RND 7: U	RND 8: U	RND 9: 3/3
East Longmeadow, MA 01028	RND10: 4/4	RND11: 4/4	RND12: 4/4
413/525-1198	RND13: 4/4		
Elizabeth Wilson	RND 1: U	RND 2: U	RND 3: U
Hygiena, Inc.	RND 4: U	RND 5: U	RND 6: U
58 Guinan Street	RND 7: U	RND 8: 4/4	RND 9: 3/3
Waltham, MA 02154	RND10: 4/4	RND11: 3/4	RND12: 4/4
617/647-9475	RND13: 4/4		

REGION 1

Joseph A. Richard	RND 1: U	RND 2: U	RND 3: U
ESA Laboratories	RND 4: U	RND 5: U	RND 6: 4/4
43 Wiggins Avenue	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Bedford, MA 01730	RND10: 4/4	RND11: 4/4	RND12: 4/4
617/275-0100	RND13: 4/4		
Arthur M. Coates	RND 1: U	RND 2: U	RND 3: U
MICROTHERM	RND 4: U	RND 5: U	RND 6: U
P. O. Box 7	RND 7: U	RND 8: U	RND 9: U
Walthan, MA 02254	RND10: U	RND11: U	RND12: U
617/891-1113	RND13: 4/4		
Harold W. Eriksen	RND 1: U	RND 2: U	RND 3: N
IHS and Co., Inc.	RND 4: I	RND 5: I	RND 6: I
91 Old Wilton Road	RND 7: I	RND 8: I	RND 9: I
Mont Vernon, NH 03057	RND10: I	RND11: I	RND12: 4/4
603/673-5937	RND13: 4/4		
Robert F. Weisberg, Ph.D.	RND 1: U	RND 2: U	RND 3: U
Analytical Testing Services	RND 4: U	RND 5: U	RND 6: U
48 Hunt Street	RND 7: U	RND 8: U	RND 9: U
Central Falls, RI 02863	RND10: U	RND11: U	RND12: U
401/723-7978	RND13: 4/4		
Dr. Robert J. Emerson	RND 1: U	RND 2: U	RND 3: U
Shelburne Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 458	RND 7: U	RND 8: U	RND 9: 3/3
Shelburne, VT 05482	RND10: 4/4	RND11: 4/4	RND12: 4/4
802/985-3379	RND13: 4/4		

REGION 2

Mr. Joseph E. Wilson	RND 1: U	RND 2: U	RND 3: 8/8
Environmental Health Protection	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Consultants, Inc.	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
46 Ivy Lane	RND10: 4/4	RND11: 3/4	RND12: 4/4
Cherry Hill, NJ 08002	RND13: 4/4		
609/779-1372			

Gordon K. Yetter	RND 1: U	RND 2: U	RND 3: U
Alternative Ways, Inc.	RND 4: U	RND 5: U	RND 6: N
RD 2 - Box 205	RND 7: 2/4	RND 8: 4/4	RND 9: 3/3
Colony Place	RND10: 4/4	RND11: 4/4	RND12: 4/4
Swedesboro, NJ 08089	RND13: 4/4		
609/547-0101			

John M. Kelly	RND 1: U	RND 2: U	RND 3: U
S-R Analytical, Inc.	RND 4: U	RND 5: U	RND 6: U
Bldg. 21 P. O. Box 4201	RND 7: U	RND 8: U	RND 9: N
28 Springdale Road	RND10: 4/4	RND11: 4/4	RND12: 4/4
Cherry Hill, NJ 08034	RND13: 4/4		
609/751-1122			

Robert Sheriff	RND 1: U	RND 2: U	RND 3: U
Atlantic Environmental Inc.	RND 4: U	RND 5: U	RND 6: U
3108 Route 10	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Suite 7	RND10: 3/4	RND11: 3/4	RND12: 4/4
Denville, NJ 07834	RND13: 4/4		
201/366-4660			

Joel Russell	RND 1: U	RND 2: U	RND 3: U
Environmental Monitoring and	RND 4: U	RND 5: U	RND 6: U
Consulting Services	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Box 872	RND10: 4/4	RND11: N	RND12: 4/4
Somerville, NJ 08876	RND13: 4/4		
201/526-1904			

R. Robinson	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
United States Testing, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Textiles Services Division	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
1415 Park Avenue	RND10: 4/4	RND11: N	RND12: 4/4
Hoboken, NJ 07030	RND13: 4/4		
201/792-2400			

REGION 2

Douglas Campbell	RND 1: U	RND 2: U	RND 3: U
PSE & G Research Corporation	RND 4: U	RND 5: U	RND 6: U
200 Boyden Avenue	RND 7: U	RND 8: U	RND 9: U
Maplewood, NJ 07040	RND10: 4/4	RND11: 3/4	RND12: 4/4
201/761-1390	RND13: 4/4		
Kirit H. Vora	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
Clayton Environmental Consultants, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
160 Fieldcrest Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Raritan Center	RND10: 4/4	RND11: 3/4	RND12: 4/4
Edison, NJ 08837	RND13: 4/4		
201/225-6040			
John E. Stillman, CIH	RND 1: U	RND 2: U	RND 3: U
Exxon Corp. REHD	RND 4: U	RND 5: U	RND 6: U
P. O. Box 235	RND 7: U	RND 8: U	RND 9: 3/3
East Millstone, NJ 08873	RND10: 4/4	RND11: 4/4	RND12: 4/4
201/873-6033	RND13: 4/4		
Ms. Jane Clarke-James	RND 1: N	RND 2: 4/4	RND 3: 7/8
Testwell-Craig Testing Laboratories	RND 4: 4/4	RND 5: 4/4	RND 6: N
565 East Harding Highway	RND 7: 4/4	RND 8: 4/4	RND 9: N
Mays Landing, NJ 08330	RND10: 4/4	RND11: 3/4	RND12: N
609/625-1700	RND13: 4/4		
Dr. Joseph Bozzelli	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
New Jersey Institue of Technology	RND 4: 4/4	RND 5: 4/4	RND 6: N
Department of Chemistry	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
323 High Street	RND10: 4/4	RND11: N	RND12: 4/4
Newark, NJ 07102	RND13: 4/4		
201/596-3459			
James J. Weitzman	RND 1: U	RND 2: U	RND 3: U
Kaselaan & D'Angelo Associates, Inc.	RND 4: U	RND 5: 4/4	RND 6: 4/4
P. O. Box 165	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Haddonfield, NJ 08033	RND10: 4/4	RND11: 4/4	RND12: 4/4
609/547-6500	RND13: 4/4		
Mr. Skip Harris	RND 1: N	RND 2: N	RND 3: D
Rossnagel and Associates, Inc.	RND 4: N	RND 5: N	RND 6: I
234 Route 70	RND 7: I	RND 8: I	RND 9: I
Medford, NJ 08055	RND10: I	RND11: 3/4	RND12: 4/4
609/651-1441	RND13: 4/4		

REGION 2

David Kichula	RND 1: 3/4	RND 2: 3/4	RND 3: 8/8
Princeton Testing Laboratory	RND 4: N	RND 5: I	RND 6: I
P. O. Box 3108	RND 7: I	RND 8: 4/4	RND 9: 3/3
Princeton, NJ 08540	RND10: 4/4	RND11: 4/4	RND12: 4/4
609/452-9050	RND13: 4/4		
Gary Hahn	RND 1: U	RND 2: U	RND 3: U
Ecology & Environmental, Inc.	RND 4: U	RND 5: U	RND 6: 4/4
P. O. Box D - 4285 Genessee St.	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Buffalo, NY 14225	RND10: 4/4	RND11: 2/4	RND12: 4/4
716/631-0360	RND13: 4/4		
Mr. Thomas A. Kubic	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
TAKA Asbestos Analytical Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
P. O. Box 208	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Greenlawn, NY 11740	RND10: 4/4	RND11: 4/4	RND12: 4/4
516/261-2117	RND13: 4/4		
Dr. Malcolm Newman	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Inter-City Testing & Consulting Corp.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
167 Willis Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Mineola, NY 11501	RND10: 4/4	RND11: 4/4	RND12: 4/4
516/747-8400	RND13: 4/4		
Fred Smith	RND 1: U	RND 2: U	RND 3: U
Asbestos Analysis	RND 4: U	RND 5: U	RND 6: U
5417 Elm Drive	RND 7: U	RND 8: U	RND 9: U
Lewiston, NY 14092	RND10: U	RND11: U	RND12: U
716/297-1476	RND13: 4/4		
George Kan	RND 1: U	RND 2: U	RND 3: U
Independent Testing Laboratory	RND 4: U	RND 5: U	RND 6: U
129-11 18th Avenue	RND 7: N	RND 8: N	RND 9: I
College Point, NY 11356	RND10: N	RND11: I	RND12: I
718/961-8530	RND13: 4/4		
Jesse H. Bidanset	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Jesse H. Bidanset & Associates	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
167 Willis Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Mineola, NY 11501	RND10: 4/4	RND11: 4/4	RND12: N
516/747-8400	RND13: 4/4		

REGION 2

Douglas Friend	RND 1: U	RND 2: U	RND 3: U
Friends Laboratory Inc.	RND 4: U	RND 5: U	RND 6: U
446 Broad St.	RND 7: 2/4	RND 8: 3/4	RND 9: 2/3
Waverly, NY 14892 1445	RND10: 3/4	RND11: 4/4	RND12: 4/4
607/565-2893	RND13: 4/4		
Ronald Bielinski	RND 1: U	RND 2: U	RND 3: U
Adelaide Envr Health Associates	RND 4: U	RND 5: U	RND 6: U
142 Riverside Drive	RND 7: U	RND 8: U	RND 9: U
Binghamton, NY 13905	RND10: 4/4	RND11: 4/4	RND12: 4/4
607/722-6839	RND13: 4/4		
Ved P. Kukreja	RND 1: U	RND 2: U	RND 3: U
Enviro-Probe, Inc.	RND 4: U	RND 5: U	RND 6: U
1424 Williamsbridge Road	RND 7: N	RND 8: 4/4	RND 9: 3/3
Bronx, NY 10461	RND10: 4/4	RND11: 4/4	RND12: 4/4
212/863-0045	RND13: 4/4		
Eva Galson	RND 1: U	RND 2: U	RND 3: U
Galson Technical Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
6601 Kirkville Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
East Syracuse, NY 13057	RND10: 4/4	RND11: 4/4	RND12: 4/4
315/432-0506	RND13: 4/4		
Swiatoslav Kaczmar	RND 1: U	RND 2: U	RND 3: U
O'Brien and Gere Engineers, Inc.	RND 4: U	RND 5: U	RND 6: U
Box 4873	RND 7: U	RND 8: U	RND 9: U
1304 Buckley Road	RND10: U	RND11: U	RND12: 4/4
Syracuse, NY 13221	RND13: 4/4		
315/451-4700			
James R. Dunn	RND 1: N	RND 2: 3/4	RND 3: 8/8
Dunn Geoscience Corporation	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
5 Northway Lane North	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Latham, NY 12110 2289	RND10: 4/4	RND11: N	RND12: 4/4
518/783-8102	RND13: 4/4		
Stephen Hix	RND 1: U	RND 2: U	RND 3: 8/8
New York Testing Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
75 Urban Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Westbury, NY 11590	RND10: 4/4	RND11: 4/4	RND12: 4/4
516/334-7770	RND13: 4/4		

REGION 2

Benito P. San Pedro, P.E.	RND 1: U	RND 2: U	RND 3: U
Brad Associates	RND 4: U	RND 5: U	RND 6: U
1 Rosanne Court	RND 7: U	RND 8: U	RND 9: U
Lake Ronkonkoma, NY 11779	RND10: U	RND11: U	RND12: U
516/467-4539	RND13: 4/4		

Jeffrey A. Berry	RND 1: U	RND 2: U	RND 3: U
Independent Asbestos Labs, Inc.	RND 4: U	RND 5: U	RND 6: U
5900 Butternut Drive	RND 7: U	RND 8: U	RND 9: U
East Syracuse, NY 13057	RND10: U	RND11: U	RND12: 3/4
315/437-1122	RND13: 4/4		

Susan Marie Viet	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Kemron Environmental Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
755 New York Avenue	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Huntington, NY 11743	RND10: 4/4	RND11: 4/4	RND12: 4/4
516/427-0950	RND13: 4/4		

REGION 3

Patrick McMahon	RND 1: U	RND 2: U	RND 3: U
Batta Environmental Associates	RND 4: U	RND 5: U	RND 6: U
P. O. Box 9722	RND 7: U	RND 8: U	RND 9: U
Newark, DE 19711 9722	RND10: 4/4	RND11: 4/4	RND12: 4/4
302/737-3376	RND13: 4/4		
Raymond C. Crippen, Ph.D.	RND 1: U	RND 2: U	RND 3: U
Crippen Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
4027 New Castle Avenue	RND 7: N	RND 8: 3/4	RND 9: 2/3
New Castle, DE 19720	RND10: 4/4	RND11: 3/4	RND12: 2/4
302/571-8882	RND13: 4/4		
Gary A. Hayes	RND 1: U	RND 2: U	RND 3: U
V. J. Schuler Associates, Inc.	RND 4: U	RND 5: U	RND 6: U
100 South Cass St.	RND 7: U	RND 8: U	RND 9: U
P. O. Box 138	RND10: U	RND11: 4/4	RND12: 4/4
Middletown, DE 19709	RND13: 4/4		
302/378-9881			
John J. Reilly	RND 1: U	RND 2: U	RND 3: U
Air Quality Systems	RND 4: U	RND 5: U	RND 6: U
2343 York Road	RND 7: U	RND 8: U	RND 9: U
Timonium, MD 21093	RND10: U	RND11: U	RND12: U
301/252-0680	RND13: 4/4		
Mr. Frank Fitzpatrick	RND 1: U	RND 2: 4/4	RND 3: 8/8
Biospherics, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
4928 Wyaconda Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Rockville, MD 20852	RND10: 4/4	RND11: 3/4	RND12: 4/4
301/770-7700	RND13: 4/4		
John Schaefer	RND 1: U	RND 2: U	RND 3: U
Oneil M. Banks Inc.	RND 4: U	RND 5: U	RND 6: U
125 N. Main Street	RND 7: U	RND 8: U	RND 9: 3/3
Bel Air, MD 21014	RND10: 4/4	RND11: 3/4	RND12: 4/4
301/879-4676	RND13: 4/4		
Michael Cirri	RND 1: U	RND 2: U	RND 3: U
Aerosol Monitoring and Analysis, Inc.	RND 4: U	RND 5: U	RND 6: U
246 Cockeysville Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. 687	RND10: 4/4	RND11: 3/4	RND12: 4/4
Hunt Valley, MD 21030	RND13: 4/4		
301/666-5105			

REGION 3

Mr. Mark R. Banister	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
Microbac, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Erie Testing Laboratory Division	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
2401 W. 26th St.	RND10: 4/4	RND11: 4/4	RND12: 4/4
Erie, PA 16506	RND13: 4/4		
814/833-4790			
Mr. G. E. Williams	RND 1: U	RND 2: D	RND 3: 8/8
Pittsburgh Testing Laboratory	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
850 Poplar Street	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Pittsburgh, PA 15220	RND10: 4/4	RND11: 4/4	RND12: 4/4
412/922-4000	RND13: 4/4		
Fred Usbeck	RND 1: U	RND 2: U	RND 3: U
MDS Laboratories	RND 4: U	RND 5: U	RND 6: U
4418 Pottsville Pike	RND 7: U	RND 8: U	RND 9: U
Reading, PA 19605	RND10: U	RND11: U	RND12: 4/4
215/921-9191	RND13: 4/4		
John T. Tobin	RND 1: U	RND 2: U	RND 3: U
BCM Engineers Inc.	RND 4: U	RND 5: U	RND 6: U
521 W. Germantown Pike	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Norristown, PA 19401	RND10: 4/4	RND11: 4/4	RND12: 4/4
215/825-0447	RND13: 4/4		
Alan J. Sutherland	RND 1: U	RND 2: U	RND 3: U
Alternative Environmental Tech, Inc.	RND 4: U	RND 5: U	RND 6: U
611 Darby Road	RND 7: U	RND 8: U	RND 9: U
Havertown, PA 19083	RND10: U	RND11: U	RND12: N
215/789-7188	RND13: 2/4		
David Valiante	RND 1: U	RND 2: U	RND 3: U
REAL TESTING, Inc.	RND 4: U	RND 5: U	RND 6: U
5034-40 Mulberry Street	RND 7: U	RND 8: U	RND 9: U
Philadelphia, PA 19124	RND10: U	RND11: U	RND12: U
215/288-4455	RND13: 4/4		
J. Richard Wohler	RND 1: U	RND 2: U	RND 3: U
FREE-COL Laboratories	RND 4: U	RND 5: U	RND 6: U
P. O. Box 557, Cotton Road	RND 7: U	RND 8: 4/4	RND 9: 3/3
Meadville, PA 16335	RND10: 4/4	RND11: 4/4	RND12: 4/4
814/724-6242	RND13: 4/4		

REGION 3

Pamela Weaver	RND 1: U	RND 2: U	RND 3: U
Galson Technical Services, Inc.	RND 4: U	RND 5: U	RND 6: U
P.O. Box 128	RND 7: U	RND 8: U	RND 9: U
260 New York Drive	RND10: U	RND11: U	RND12: U
Fort Washington, PA 19034	RND13: 4/4		
315/432-0506			
Diane Flammer	RND 1: U	RND 2: U	RND 3: N
Spotts, Stevens, & McCoy	RND 4: I	RND 5: I	RND 6: I
345 N. Wyomissing Blvd.	RND 7: I	RND 8: I	RND 9: I
Wyomissing, PA 19610	RND10: 4/4	RND11: 3/4	RND12: 4/4
215/376-6581	RND13: 4/4		
Barbara J. Weaver	RND 1: U	RND 2: U	RND 3: U
Lancaster Laboratories Inc.	RND 4: U	RND 5: 4/4	RND 6: 4/4
2425 New Holland Ave.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Lancaster, PA 17601	RND10: 4/4	RND11: 4/4	RND12: 4/4
717/656-2301	RND13: 4/4		
John Lang	RND 1: U	RND 2: U	RND 3: U
Peach Laboratories	RND 4: U	RND 5: U	RND 6: U
Box 9570	RND 7: U	RND 8: U	RND 9: U
800 Mt. Royal Blvd., Suite III	RND10: U	RND11: U	RND12: 4/4
Pittsburgh, PA 15223	RND13: 4/4		
412/486-0346			
Dr. Roy S. Anderson	RND 1: U	RND 2: U	RND 3: U
Comprehensive Chemical Consulting	RND 4: U	RND 5: U	RND 6: U
11 St. Alban's Circle	RND 7: U	RND 8: U	RND 9: 3/3
Newtown Square, PA 19073 3606	RND10: 4/4	RND11: 3/4	RND12: 4/4
215/353-3015	RND13: 4/4		
Max E. Snavely	RND 1: U	RND 2: U	RND 3: U
Gannett-McCreath Laboratories	RND 4: U	RND 5: U	RND 6: U
P.O. Box 1963	RND 7: U	RND 8: U	RND 9: U
Harrisburg, PA 17105	RND10: U	RND11: U	RND12: U
717/763-7211			
David R. Fussaro, Ph. D.	RND 1: U	RND 2: U	RND 3: U
Industrial Health Foundation, Inc.	RND 4: U	RND 5: U	RND 6: U
34 Penn Circle West	RND 7: U	RND 8: 4/4	RND 9: 3/3
Pittsburgh, PA 15206	RND10: 4/4	RND11: 3/4	RND12: 4/4
412/363-6600	RND13: 4/4		

REGION 3

Thomas F. Gibson	RND 1: U	RND 2: U	RND 3: U
Tri Marine Testing	RND 4: U	RND 5: U	RND 6: U
8 Salisbury Lane	RND 7: U	RND 8: U	RND 9: U
Malvern, PA 19355	RND10: U	RND11: U	RND12: U
215/447-5901	RND13: 4/4		
Barbara J. Davies	RND 1: U	RND 2: U	RND 3: U
Lehigh Valley Analytics, Inc.	RND 4: U	RND 5: U	RND 6: U
60 West Broad Street	RND 7: U	RND 8: U	RND 9: U
Bethlehem, PA 18018	RND10: U	RND11: U	RND12: U
215/866-4434	RND13: 4/4		
Nancy Kotsko	RND 1: U	RND 2: U	RND 3: U
Air Quality Services	RND 4: N	RND 5: 4/4	RND 6: 4/4
4527 Clairton Boulevard	RND 7: 4/4	RND 8: 3/4	RND 9: 3/3
Pittsburgh, PA 15236	RND10: 4/4	RND11: 4/4	RND12: 4/4
412/881-5630	RND13: 4/4		
James Stiefel	RND 1: U	RND 2: U	RND 3: U
Hartford Steam Boiler I & I Co.	RND 4: U	RND 5: U	RND 6: U
Building 9, Suite 444	RND 7: U	RND 8: U	RND 9: U
580 East Swedesford Road	RND10: U	RND11: U	RND12: U
Wayne, PA 09087	RND13: 4/4		
215/293-0550			
Ellie Chapman	RND 1: U	RND 2: U	RND 3: U
Industrial Hygiene & Occup. Med Lab	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
A Division of American Medical Lab, Inc.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
11091 Main Street	RND10: 4/4	RND11: 4/4	RND12: 4/4
Fairfax, VA 22030	RND13: 4/4		
703/691-9100			
W. Corey Thompson	RND 1: U	RND 2: U	RND 3: U
Versar Inc.	RND 4: U	RND 5: U	RND 6: U
6850 Versar Center	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Springfield, VA 22151	RND10: 4/4	RND11: 4/4	RND12: 4/4
703/750-3000	RND13: 4/4		
Steven S. Paskal	RND 1: U	RND 2: U	RND 3: U
Paskal Environmental Services	RND 4: U	RND 5: U	RND 6: U
1400 South Joyce Street, Suite C-1701	RND 7: U	RND 8: U	RND 9: U
Arlington, VA 22202	RND10: U	RND11: U	RND12: U
703/920-6653	RND13: 4/4		

REGION 3

Richard F. Schneider	RND 1: U	RND 2: U	RND 3: U
Schneider Research Labs	RND 4: U	RND 5: U	RND 6: U
1508 W. Main St.	RND 7: U	RND 8: U	RND 9: U
Richmond, VA 23220 4631	RND10: U	RND11: U	RND12: 4/4
804/353-6778	RND13: 4/4		
Edwin Cox, III	RND 1: U	RND 2: U	RND 3: U
Commonwealth Laboratory, Inc.	RND 4: U	RND 5: U	RND 6: U
Chemists Building	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
2209 East Broad Street	RND10: 4/4	RND11: 4/4	RND12: 4/4
Richmond, VA 23223	RND13: 4/4		
804/648-8358			
Kent Shoemaker	RND 1: U	RND 2: U	RND 3: U
Newport News Shipbuilding	RND 4: U	RND 5: 4/4	RND 6: 4/4
Industrial Hygiene	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
4101 Washington Ave.	RND10: 4/4	RND11: 4/4	RND12: 4/4
Newport News, VA 23607	RND13: 4/4		
804/380-2649			
Dr. Joseph H. Guth	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
Interscience Research	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
2614 Wyoming Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Norfolk, VA 23513	RND10: 4/4	RND11: 4/4	RND12: 4/4
804/853-8813	RND13: 4/4		
Mr. James Calpin	RND 1: U	RND 2: U	RND 3: 8/8
Analytics	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
P.O. Box 25249	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Richmond, VA 23260	RND10: 4/4	RND11: 4/4	RND12: 3/4
804/353-8973	RND13: 4/4		
Terry W. Hall	RND 1: U	RND 2: U	RND 3: U
Environmental Laboratories, Inc.	RND 4: U	RND 5: 4/4	RND 6: 4/4
103 S. Leadbetter Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Ashland, VA 23005	RND10: 4/4	RND11: 4/4	RND12: 4/4
804/798-1589	RND13: 4/4		
Colleen Becker	RND 1: U	RND 2: U	RND 3: 8/8
Marine Chemist Service, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
11850 Tug Boat Lane	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Newport News, VA 23606	RND10: 4/4	RND11: 3/4	RND12: 4/4
804/873-0933	RND13: 4/4		

REGION 3

Laurie Piacitelli	RND 1: U	RND 2: U	RND 3: U
Air Quality Analysis Associates	RND 4: U	RND 5: U	RND 6: U
1337 Perry Avenue	RND 7: U	RND 8: U	RND 9: U
Morgantown, WV 26505	RND10: U	RND11: U	RND12: U
304/599-0023	RND13: 4/4		

Anthony W. Creamer	RND 1: U	RND 2: U	RND 3: U
Occupational Medical Center Lab	RND 4: U	RND 5: U	RND 6: U
Suite 4300	RND 7: U	RND 8: U	RND 9: U
490 L'Enfant Plaza E. - S.W.	RND10: U	RND11: U	RND12: 4/4
Washington, DC 20026	RND13: 4/4		
202/488-7990			

Robert Simon	RND 1: U	RND 2: U	RND 3: U
Maryland Asbestos Laboratory, Inc.	RND 4: U	RND 5: U	RND 6: U
1025 Thomas Jefferson St. NW	RND 7: U	RND 8: U	RND 9: U
Suite 400, East Lobby	RND10: U	RND11: U	RND12: 4/4
Washington, DC 20007	RND13: 4/4		
202/944-3622			

REGION 4

Dr. Charles H. Ray, Jr.	RND 1: U	RND 2: U	RND 3: U
Office of Safety & Environmental Health	RND 4: U	RND 5: U	RND 6: 4/4
Room 300 Nuclear Science Center	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Auburn University, AL 36849 3501	RND10: 4/4	RND11: 4/4	RND12: 4/4
205/826-4870	RND13: 4/4		
Fred Moore, PE, President	RND 1: U	RND 2: U	RND 3: U
Hazardous Materials Engineering, Inc.	RND 4: U	RND 5: U	RND 6: U
1105 Fitzpatrick	RND 7: U	RND 8: U	RND 9: U
P.O. Box 4170	RND10: U	RND11: U	RND12: U
Opelika, AL 36801 4170	RND13: 4/4		
205/745-0071			
Mr. M. A. Beg	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
American Microscopy Laboratory	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
29 Heritage Hills	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Tuscaloosa, AL 35406	RND10: 4/4	RND11: 4/4	RND12: 4/4
205/345-2555	RND13: 4/4		
Jack E. Davis	RND 1: U	RND 2: U	RND 3: U
Tuscaloosa Testing Laboratory, Inc.	RND 4: U	RND 5: U	RND 6: U
3516 Greensboro Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Box 1094	RND10: 4/4	RND11: 4/4	RND12: 4/4
Tuscaloosa, AL 35403	RND13: 4/4		
205/345-0816			
Emery E. Baya	RND 1: U	RND 2: U	RND 3: U
Thompson Engineering Testing	RND 4: U	RND 5: U	RND 6: U
3707 Cottage Hill Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Drawer 9637	RND10: 4/4	RND11: 4/4	RND12: 4/4
Mobile, AL 36691	RND13: 4/4		
205/666-2443			
Randy Ogle	RND 1: U	RND 2: U	RND 3: U
Safe State Program	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
University of Alabama	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Box 6005	RND10: 4/4	RND11: 4/4	RND12: 4/4
Tuscaloosa, AL 35486	RND13: 4/4		
205/348-7136			
Dr. Herbert C. Miller	RND 1: U	RND 2: U	RND 3: U
Southern Research Institute	RND 4: U	RND 5: U	RND 6: U
2000 Ninth Avenue South	RND 7: U	RND 8: 4/4	RND 9: 3/3
P. O. Box 55305	RND10: 4/4	RND11: 4/4	RND12: 4/4
Birmingham, AL 35255-5305	RND13: 4/4		
205/323-6592			

REGION 4

John Lambert Environmental Specialties, Inc. 9 Office Park Circle, Suite 5 Mountain Brook, AL 35223 205/870-3561	RND 1: U RND 4: U RND 7: U RND10: U RND13: 4/4	RND 2: U RND 5: U RND 8: U RND11: U	RND 3: U RND 6: U RND 9: U RND12: 4/4
Steven E. Jones Applied Technology Consultants 1635 Pumphrey Ave. Auburn, AL 36830 4303 205/826-6100	RND 1: U RND 4: U RND 7: U RND10: 4/4 RND13: 4/4	RND 2: U RND 5: U RND 8: 4/4 RND11: 4/4	RND 3: U RND 6: U RND 9: 3/3 RND12: 4/4
Bruce Wilson Southern Earth Sciences, Inc. 762 Downtowner Loop W. Mobile, AL 36609 205/344-7711	RND 1: U RND 4: U RND 7: 4/4 RND10: 4/4 RND13: 4/4	RND 2: U RND 5: U RND 8: 4/4 RND11: 4/4	RND 3: U RND 6: 4/4 RND 9: 3/3 RND12: 4/4
John H. Kilbourn Kilbourn Associates 1913 Capri Drive Huntsville, AL 35811 205/539-1401	RND 1: U RND 4: U RND 7: 4/4 RND10: 4/4 RND13: 4/4	RND 2: U RND 5: U RND 8: 4/4 RND11: 4/4	RND 3: U RND 6: 4/4 RND 9: 3/3 RND12: 4/4
Elizabeth Lynch Law Engineering Testing Co. 3608 7th Court, South P. O. Box 10244 Birminghan, AL 35202 205/252-9901	RND 1: U RND 4: U RND 7: U RND10: U RND13: 4/4	RND 2: U RND 5: U RND 8: U RND11: U	RND 3: U RND 6: U RND 9: U RND12: 4/4
James D. Ray Chem-Ray P. O. Box 821 Florence, AL 35631 205/776-4345	RND 1: U RND 4: 4/4 RND 7: 4/4 RND10: 4/4 RND13: 4/4	RND 2: U RND 5: 4/4 RND 8: 4/4 RND11: 4/4	RND 3: 8/8 RND 6: 4/4 RND 9: 3/3 RND12: 4/4
David Kirby Kirby Analytical 2109 20TH Street Northport, AL 35476 205/333-9023	RND 1: U RND 4: U RND 7: U RND10: 4/4 RND13: 4/4	RND 2: U RND 5: U RND 8: U RND11: 4/4	RND 3: U RND 6: U RND 9: U RND12: 4/4

REGION 4

Rick Pruet	RND 1: U	RND 2: U	RND 3: U
Environmental Monitoring Systems	RND 4: U	RND 5: U	RND 6: U
P. O. Box 2224	RND 7: U	RND 8: U	RND 9: U
Auburn, AL 36830	RND10: U	RND11: U	RND12: N
205/821-2142	RND13: 4/4		
Mr. Harry Kreigh	RND 1: U	RND 2: U	RND 3: 7/8
Interscience, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
5460 Beaumont Center Blvd.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Tampa, FL 33614	RND10: 4/4	RND11: 4/4	RND12: 4/4
813/885-4774	RND13: 4/4		
Jefferson S. Flowers	RND 1: U	RND 2: U	RND 3: U
Flowers Chemicals Laboratories	RND 4: U	RND 5: U	RND 6: U
P. O. Box 597	RND 7: U	RND 8: U	RND 9: 3/3
Altamont Springs, FL 32701	RND10: 4/4	RND11: N	RND12: 3/4
305/339-5984	RND13: 2/4		
Laure H. Isham	RND 1: U	RND 2: U	RND 3: 8/8
Thornton Laboratories	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
1145 E. Cass St.	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Tampa, FL 33602	RND10: 4/4	RND11: 4/4	RND12: 4/4
813/223-9702	RND13: 4/4		
Joseph M. Kirchmer	RND 1: U	RND 2: U	RND 3: U
Technical Services, Inc.	RND 4: U	RND 5: U	RND 6: U
2471 Swan Street	RND 7: U	RND 8: 4/4	RND 9: 2/3
Jacksonville, FL 32204	RND10: 4/4	RND11: 4/4	RND12: 4/4
904/353-5761	RND13: 4/4		
Barbara J. Ross	RND 1: U	RND 2: U	RND 3: U
Environmental Science and Eng., Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box E.S.E.	RND 7: U	RND 8: U	RND 9: N
Gainesville, FL 32602 3053	RND10: 4/4	RND11: 4/4	RND12: 4/4
904/332-3318	RND13: 4/4		
James R. Burkhalter	RND 1: U	RND 2: U	RND 3: U
Environmental Protection Systems, Inc.	RND 4: U	RND 5: U	RND 6: 4/4
7215 Pine Forest Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Pensacola, FL 32506	RND10: 4/4	RND11: 4/4	RND12: 4/4
904/944-0301	RND13: 4/4		

REGION 4

Garrett J. McGibbon	RND 1: U	RND 2: U	RND 3: U
KNL Laboratory Services	RND 4: U	RND 5: U	RND 6: U
P. O. Box 1833	RND 7: U	RND 8: N	RND 9: 2/3
Tampa, FL 33601	RND10: 4/4	RND11: N	RND12: 4/4
813/229-2879	RND13: 2/4		
John Wilson	RND 1: U	RND 2: U	RND 3: U
Wilson Analytical, Inc.	RND 4: U	RND 5: U	RND 6: U
P.O. Box 29427	RND 7: U	RND 8: U	RND 9: U
Atlanta, GA 30359	RND10: U	RND11: U	RND12: U
404/634-3861	RND13: 4/4		
Richard L. Hatfield	RND 1: U	RND 2: U	RND 3: U
Mc Crone Environmental Services, Inc.	RND 4: U	RND 5: 4/4	RND 6: 4/4
5500 Oakbrook Parkway, Suite 200	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Norcross, GA 30093	RND10: 4/4	RND11: 4/4	RND12: 4/4
404/449-8461	RND13: 4/4		
Laurel V. Waters	RND 1: U	RND 2: U	RND 3: U
Applied Technical Services	RND 4: U	RND 5: U	RND 6: U
1190 Atlanta Industrial Drive	RND 7: U	RND 8: U	RND 9: 3/3
Marietta, GA 30066	RND10: 4/4	RND11: N	RND12: 4/4
404/423-1400	RND13: 4/4		
Ion Petre	RND 1: U	RND 2: U	RND 3: U
Geo-Environmental Services Inc.	RND 4: U	RND 5: U	RND 6: U
3277 Roswell Rd. - Suite 711	RND 7: U	RND 8: 4/4	RND 9: 3/3
Atlanta, GA 30305	RND10: 4/4	RND11: 4/4	RND12: 4/4
404/257-9303	RND13: 4/4		
Trabue D. Bryans	RND 1: U	RND 2: U	RND 3: U
MacMillan Research, Ltd.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 1305	RND 7: U	RND 8: U	RND 9: U
Marietta, GA 30061	RND10: 4/4	RND11: 4/4	RND12: N
404/427-3101	RND13: 4/4		
Harriotte A. Hurley, CIH	RND 1: U	RND 2: 4/4	RND 3: 8/8
Environmental Health Laboratory	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
1021 Ga. Avenue, 3rd Floor	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Macon, GA 31201	RND10: 4/4	RND11: 4/4	RND12: 4/4
912/745-4702	RND13: 4/4		

REGION 4

Donald K. Cavin	RND 1: U	RND 2: U	RND 3: U
Cavin Analytical Consultants	RND 4: U	RND 5: U	RND 6: U
P. O. Box 454	RND 7: U	RND 8: U	RND 9: U
Snellville, GA 30278	RND10: U	RND11: 4/4	RND12: 4/4
404/979-8838	RND13: 4/4		
Charles Greer	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Law Engineering Testing Co.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
P.O. Box 13260, Station K	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Atlanta, GA 30324	RND10: 4/4	RND11: 4/4	RND12: 4/4
404/873-4761	RND13: 4/4		
Kenneth P. Reed, Ph.D.	RND 1: U	RND 2: U	RND 3: U
Northern Kentucky Envoronmental Service	RND 4: U	RND 5: U	RND 6: U
300 Doctors Building	RND 7: U	RND 8: U	RND 9: U
33 East Seventh Street	RND10: 3/4	RND11: 4/4	RND12: 3/4
Covington, KY 41011	RND13: 4/4		
606/431-6224			
Doug Price	RND 1: U	RND 2: U	RND 3: U
Microscopist	RND 4: U	RND 5: U	RND 6: U
1051 F. Newtown Pike	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Lexington, KY 40511	RND10: 4/4	RND11: 4/4	RND12: 4/4
606/233-7774	RND13: 4/4		
Mr. J. Daniel Cooper	RND 1: U	RND 2: N	RND 3: N
Metro Services Laboratory	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
235 E. Burnette Ave.	RND 7: N	RND 8: 3/4	RND 9: 3/3
Louisville, KY 40208	RND10: 4/4	RND11: 4/4	RND12: 4/4
502/635-5463	RND13: 4/4		
Robert C. Tussey, Jr.	RND 1: U	RND 2: U	RND 3: U
Kenvirons, Inc.	RND 4: U	RND 5: U	RND 6: U
452 Versailles Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Drawer V	RND10: 4/4	RND11: 3/4	RND12: N
Frankfort, KY 40602	RND13: 3/4		
502/695-4357			
Thomas J. Wilson	RND 1: U	RND 2: U	RND 3: U
Micro-Methods	RND 4: U	RND 5: U	RND 6: 4/4
5106 Telephone Road	RND 7: 4/4	RND 8: 3/4	RND 9: 3/3
Pascagoula, MS 39567	RND10: 4/4	RND11: 3/4	RND12: 4/4
601/769-7774	RND13: 4/4		

REGION 4

Dr. Corbin McGriff	RND 1: U	RND 2: U	RND 3: U
Environmental Protection Systems, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
P. O. Box 20382	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Jackson, MS 39209	RND10: 4/4	RND11: 4/4	RND12: 4/4
601/922-8242	RND13: 4/4		
Michael Bonner	RND 1: U	RND 2: U	RND 3: U
Bonner Analytical Testing Co.	RND 4: U	RND 5: U	RND 6: U
Rt. 13, Box 85	RND 7: U	RND 8: U	RND 9: U
Hattiesburg, MS 39401	RND10: U	RND11: U	RND12: 4/4
601/264-2854	RND13: 4/4		
James A. Jahnke, Ph.D.	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Northrop Services, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Environmental Sciences	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
P. O. Box 12313	RND10: 4/4	RND11: 4/4	RND12: 4/4
RTP, NC 27709	RND13: 4/4		
919/549-0411			
Richard Spivey	RND 1: U	RND 2: U	RND 3: U
R3 Enterprises	RND 4: U	RND 5: U	RND 6: U
630 Edgewater Club Road	RND 7: U	RND 8: U	RND 9: U
Wilmington, NC 28405	RND10: U	RND11: U	RND12: U
919/686-0242	RND13: 4/4		
Steven L. Goode	RND 1: U	RND 2: U	RND 3: U
PES, Inc.	RND 4: U	RND 5: U	RND 6: U
1905 Chapel Hill Road	RND 7: U	RND 8: U	RND 9: U
Durham, NC 27707	RND10: U	RND11: 4/4	RND12: 4/4
919/493-3536	RND13: 4/4		
David H. Buetow	RND 1: U	RND 2: U	RND 3: U
Buetow Laboratories	RND 4: U	RND 5: U	RND 6: U
6921 Waldorf Court	RND 7: U	RND 8: U	RND 9: U
Charlotte, NC 28211	RND10: U	RND11: U	RND12: 4/4
704/525-8984	RND13: 4/4		
Reginald C. Jordan, CIH	RND 1: U	RND 2: U	RND 3: U
Envirosciences, Inc.	RND 4: U	RND 5: U	RND 6: U
3120 Julian Dr.	RND 7: U	RND 8: U	RND 9: 3/3
Raleigh, NC 27604	RND10: 4/4	RND11: 3/4	RND12: 4/4
919/876-9722	RND13: 4/4		

REGION 4

Mr. John Sheats	RND 1: U	RND 2: U	RND 3: 8/8
Quality Analytical Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
4701 Joseph Michael Court	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Raleigh, NC 27606	RND10: 4/4	RND11: 4/4	RND12: 4/4
919/851-2891	RND13: 4/4		
Larry Thompson	RND 1: U	RND 2: U	RND 3: U
Thompson & Associates	RND 4: U	RND 5: 4/4	RND 6: N
P. O. Box 766	RND 7: 1/4	RND 8: 3/4	RND 9: 2/3
Folly Beach, SC 29439	RND10: 3/4	RND11: 2/4	RND12: 4/4
803/588-9155	RND13: 4/4		
Patrick H. Cooper	RND 1: U	RND 2: U	RND 3: U
Industrial Insulation Co., Inc.	RND 4: U	RND 5: N	RND 6: 4/4
P. O. Box 5312	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
N. Charleston, SC 29406	RND10: N	RND11: 4/4	RND12: 4/4
803/747-3629	RND13: 4/4		
Richard D. Bennett	RND 1: U	RND 2: U	RND 3: U
Azimuth, Inc.	RND 4: U	RND 5: U	RND 6: U
188 Bridge Creek Drive	RND 7: U	RND 8: U	RND 9: U
Goose Creek, SC 29445	RND10: U	RND11: 4/4	RND12: 4/4
803/553-9456	RND13: 4/4		
Kathy Turner	RND 1: U	RND 2: U	RND 3: U
Phoenix Environmental Labs	RND 4: U	RND 5: U	RND 6: U
2000 Lindell Avenue	RND 7: U	RND 8: U	RND 9: U
Nashville, TN 37203	RND10: 4/4	RND11: 4/4	RND12: 4/4
615/292-1056	RND13: 4/4		
Kenneth Laseter	RND 1: U	RND 2: U	RND 3: U
Laseter and Associates, Inc.	RND 4: U	RND 5: U	RND 6: U
P.O. Box 176	RND 7: U	RND 8: U	RND 9: U
Collierville, TN 38107	RND10: U	RND11: U	RND12: U
901/853-0400	RND13: 4/4		

REGION 5

Jean Graf	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
IIT Research Institute	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
10 West 35th Street	RND 7: N	RND 8: 4/4	RND 9: N
Chicago, IL 60616	RND10: N	RND11: I	RND12: I
312/567-4286	RND13: 4/4		
Cynthia Darling	RND 1: U	RND 2: U	RND 3: U
Cencon	RND 4: U	RND 5: U	RND 6: U
333 South Wabash Avenue - 3W	RND 7: U	RND 8: 4/4	RND 9: 3/3
Chicago, IL 60604	RND10: 4/4	RND11: 4/4	RND12: 4/4
312/822-5570	RND13: 4/4		
Gloria K. Willis	RND 1: U	RND 2: U	RND 3: U
Gabriel Laboratories	RND 4: U	RND 5: U	RND 6: U
1814 North Mrshfield	RND 7: 3/4	RND 8: 4/4	RND 9: N
Chicago, IL 60622	RND10: 3/4	RND11: N	RND12: 4/4
312/486-2123	RND13: 3/4		
Michael Bayard	RND 1: U	RND 2: U	RND 3: U
Particle Data Laboratories, Ltd.	RND 4: U	RND 5: 4/4	RND 6: 4/4
115 Hahn Street	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Elmhurst, IL 60126	RND10: 4/4	RND11: 3/4	RND12: 4/4
312/832-5658	RND13: 4/4		
Gary Kentgen	RND 1: U	RND 2: U	RND 3: U
Anasbestics/GK Consulting	RND 4: U	RND 5: U	RND 6: U
407 West Eugenie Street	RND 7: U	RND 8: U	RND 9: U
Chicago, IL 60614	RND10: U	RND11: 4/4	RND12: 4/4
312/944-3132	RND13: 4/4		
Melvyn P. Machin	RND 1: 4/4	RND 2: 4/4	RND 3: 7/8
Erlin, Hime Associates Division	RND 4: 4/4	RND 5: 4/4	RND 6: N
Wiss, Janney, Elstner Assoc., Inc.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
330 Pfingsten Road	RND10: 4/4	RND11: N	RND12: 3/4
Northbrook, IL 60062	RND13: 4/4		
312/272-7400			
Dr. Stephen Hall	RND 1: U	RND 2: U	RND 3: 7/8
American Industrial Laboratory	RND 4: 2/4	RND 5: 4/4	RND 6: N
P. O. Box 627	RND 7: 2/4	RND 8: 4/4	RND 9: 2/3
Edwardsville, IL 62025 0627	RND10: 3/4	RND11: 3/4	RND12: 4/4
618/692-2042	RND13: 4/4		

REGION 5

Ms. Joan Wronski	RND 1: U	RND 2: 3/4	RND 3: 8/8
NATLSCO K-2	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
RTE 22 & Kemper Drive	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Long Grove, IL 60049	RND10: 4/4	RND11: 4/4	RND12: 4/4
312/540-2488	RND13: 4/4		
E. V. Krauss	RND 1: U	RND 2: U	RND 3: U
Environmt'l Sciences Lab/Northbrook Svcs	RND 4: U	RND 5: U	RND 6: U
1 Allstate Commercial Plaza - TGB	RND 7: U	RND 8: U	RND 9: U
501 West Higgins Road	RND10: U	RND11: U	RND12: U
South Barrington, IL 60010	RND13: 4/4		
312/551-2316			
Anthony S. Claveria	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
McCrone Environmental Services Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
2820 South Michigan Ave.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Chicago, IL 60304	RND10: 4/4	RND11: 4/4	RND12: 4/4
312/842-7100	RND13: 4/4		
James F. Dallmeyer	RND 1: U	RND 2: U	RND 3: U
Daily Analytical Laboratories	RND 4: U	RND 5: U	RND 6: U
1621 W. Candletree Drive	RND 7: U	RND 8: U	RND 9: 3/3
Peoria, IL 61614	RND10: 4/4	RND11: 4/4	RND12: 4/4
309/692-5252	RND13: 4/4		
Matthew Carmel	RND 1: U	RND 2: U	RND 3: U
Carmel Industrial Health	RND 4: U	RND 5: U	RND 6: U
388 Morris Ave. Suite B	RND 7: U	RND 8: U	RND 9: U
Summit, NJ 07901	RND10: U	RND11: U	RND12: 4/4
201/273-4004	RND13: 4/4		
Fay Goldblatt	RND 1: 4/4	RND 2: 4/4	RND 3: 7/8
Fay Goldblatt Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
910 W. Clayton Street	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Waukegan, IL 60085	RND10: 4/4	RND11: 4/4	RND12: 4/4
312/249-1745	RND13: 4/4		
Steve Wolf	RND 1: U	RND 2: U	RND 3: U
Carnow, Conibear and Associates, Ltd.	RND 4: U	RND 5: U	RND 6: U
333 W. Wacker Drive, 14th Floor	RND 7: U	RND 8: U	RND 9: U
Chicago, IL 60606	RND10: U	RND11: U	RND12: 4/4
312/782-4486	RND13: 4/4		

REGION 5

Morris L. V. French	RND 1: U	RND 2: U	RND 3: U
micro air, inc.	RND 4: U	RND 5: U	RND 6: U
7168 Zionsville Road	RND 7: U	RND 8: U	RND 9: U
Indianapolis, IN 46268	RND10: U	RND11: U	RND12: U
317/293-1533	RND13: 4/4		
Gary Kentgen	RND 1: U	RND 2: U	RND 3: 8/8
Environmental Research Group Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
117 North First Street	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Ann Arbor, MI 48104	RND10: 4/4	RND11: 4/4	RND12: 4/4
313/662-3104	RND13: 4/4		
Scott Chandler	RND 1: U	RND 2: U	RND 3: U
Testing Engineers and Consultants, Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 249	RND 7: U	RND 8: U	RND 9: U
1333 Rochester Rd.	RND10: U	RND11: U	RND12: 4/4
Troy, MI 48099	RND13: 4/4		
313/588-6200			
Mark A. De Lisle	RND 1: U	RND 2: U	RND 3: U
BDN Industrial Hygiene Consultants	RND 4: U	RND 5: U	RND 6: U
8105 Valleywood Lane	RND 7: U	RND 8: U	RND 9: 3/3
Portage, MI 49002	RND10: 4/4	RND11: 4/4	RND12: 4/4
616/329-1239	RND13: 4/4		
Gail Seifkin	RND 1: U	RND 2: U	RND 3: U
IHI Kemron Environmental Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
32740 N. Western Highway	RND 7: 4/4	RND 8: 4/4	RND 9: N
Farmington Hills, MI 48018	RND10: 4/4	RND11: 4/4	RND12: 4/4
313/626-2426	RND13: 4/4		
Hosny Khordagui	RND 1: U	RND 2: U	RND 3: U
Canton Analytical Laboratory	RND 4: U	RND 5: U	RND 6: U
153 Elder Street	RND 7: U	RND 8: U	RND 9: U
Ypsilanti, MI 48197	RND10: 4/4	RND11: 4/4	RND12: 4/4
313/483-7430	RND13: 4/4		
Beverly De Lisle	RND 1: U	RND 2: U	RND 3: U
De Lisle Laboratories	RND 4: U	RND 5: U	RND 6: U
2136 Banbury Road	RND 7: U	RND 8: U	RND 9: U
Kalamazoo, MI 49001	RND10: U	RND11: U	RND12: U
616/343-8190	RND13: 4/4		

REGION 5

Debra Rickel	RND 1: U	RND 2: U	RND 3: U
Industrial Environmt'l Consultants, Ltd.	RND 4: U	RND 5: U	RND 6: U
50333 Willis Road #5	RND 7: U	RND 8: U	RND 9: U
Belleville, MI 48111	RND10: U	RND11: U	RND12: U
313/461-9106	RND13: 4/4		
Mr. Bob Lieckfield	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Clayton Environmental Consultants, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
25711 Southfield Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Southfield, MI 48075	RND10: 4/4	RND11: 4/4	RND12: 4/4
313/424-8860	RND13: 4/4		
Lisa A. Fournelle-Smestad	RND 1: U	RND 2: U	RND 3: U
Braun Environmental Laboratories	RND 4: U	RND 5: U	RND 6: U
6800 S. Country Road 18	RND 7: U	RND 8: U	RND 9: U
P.O. Box 35108	RND10: U	RND11: U	RND12: U
Minneapolis, MN 55435-0108	RND13: 4/4		
612/941-5600			
Mr. Donald J. Larsen	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
The St. Paul Insurance Company	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
494 Metro Square Building	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
7th and Robert Streets	RND10: 4/4	RND11: 4/4	RND12: 4/4
St. Paul, MN 55101	RND13: 4/4		
612/221-7043			
Mr. Michael L. Boucher	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
MJH Mineralogical Consultants, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
13345 Foliage Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Apple Valley, MN 55124	RND10: 4/4	RND11: 4/4	RND12: 4/4
612/432-8836	RND13: 4/4		
Rosemary Breiland	RND 1: U	RND 2: U	RND 3: U
Twin City Testing & Engr Lab, Inc.	RND 4: U	RND 5: U	RND 6: U
662 Cromwell Ave.	RND 7: U	RND 8: U	RND 9: N
St. Paul, MN 55117	RND10: 4/4	RND11: 4/4	RND12: 4/4
612/645-3601	RND13: 4/4		
Terrence D. Skelton	RND 1: U	RND 2: U	RND 3: U
MWL, Inc.	RND 4: U	RND 5: U	RND 6: U
101 Peavey Lane	RND 7: U	RND 8: U	RND 9: 3/3
Wayzata, MN 55391	RND10: 4/4	RND11: 3/4	RND12: N
612/473-5531	RND13: 4/4		

REGION 5

Timothy Lavey	RND 1: U	RND 2: U	RND 3: U
Wadsworth Testing Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 208	RND 7: U	RND 8: U	RND 9: U
1600 Fourth St. SE	RND10: U	RND11: U	RND12: 4/4
Canton, OH 44707	RND13: 4/4		
216/454-5809			
Mr. Craig Caldwell	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
PEI Associates, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
11499 Chester Road	RND 7: 4/4	RND 8: 3/4	RND 9: 3/3
Cincinnati, OH 45246	RND10: 4/4	RND11: 4/4	RND12: 4/4
513/782-4700	RND13: 4/4		
Christopher Bulinski	RND 1: U	RND 2: U	RND 3: U
Envisage Environmental, Inc.	RND 4: U	RND 5: U	RND 6: U
P.O. Box 152	RND 7: U	RND 8: U	RND 9: U
Richfield, OH 44286	RND10: U	RND11: U	RND12: U
216/526-0990	RND13: 4/4		
Mr. W. Martin Bell	RND 1: U	RND 2: U	RND 3: U
Stilson Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
170 North High Street	RND 7: U	RND 8: U	RND 9: U
Columbus, OH 43215	RND10: U	RND11: U	RND12: U
614/228-4385	RND13: 4/4		
Mr. Tom Eggers	RND 1: U	RND 2: U	RND 3: 6/8
Lyle Laboratories	RND 4: N	RND 5: 4/4	RND 6: 4/4
1327 King Avenue	RND 7: 4/4	RND 8: N	RND 9: 3/3
Columbus, OH 43212	RND10: N	RND11: 4/4	RND12: N
614/488-1022	RND13: 4/4		
Richard E. Moore	RND 1: U	RND 2: U	RND 3: U
American Analytical Laboratories	RND 4: U	RND 5: U	RND 6: U
100 Lincoln Street	RND 7: U	RND 8: U	RND 9: U
Akron, OH 44308	RND10: 3/4	RND11: 4/4	RND12: 4/4
216/535-1300	RND13: 4/4		
S. H. Gelles	RND 1: U	RND 2: U	RND 3: U
S. H. Gelles Associates	RND 4: U	RND 5: U	RND 6: U
2836 Fisher Road	RND 7: U	RND 8: U	RND 9: U
Columbus, OH 43204	RND10: U	RND11: 4/4	RND12: 4/4
614/276-2957	RND13: 4/4		

REGION 5

Sandra Kulik	RND 1: U	RND 2: U	RND 3: N
Howard Laboratories	RND 4: N	RND 5: N	RND 6: 4/4
P. O. Box 369	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Dayton, OH 45449	RND10: 4/4	RND11: 4/4	RND12: 4/4
513/294-6856	RND13: 4/4		

Mark A. Bingman	RND 1: U	RND 2: U	RND 3: U
Bowser-Morner Testing Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: 4/4
420 Davis Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Box 51	RND10: 4/4	RND11: 4/4	RND12: 4/4
Dayton, OH 45403	RND13: 4/4		
513/253-8805			

Bill Zimmerlin	RND 1: U	RND 2: U	RND 3: U
Z-Con Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 576	RND 7: U	RND 8: U	RND 9: 3/3
Vandalia, OH 45377 0576	RND10: 4/4	RND11: 4/4	RND12: 4/4
513/236-7608	RND13: 4/4		

Timothy P. Weltin	RND 1: U	RND 2: N	RND 3: N
Environmental Consultants Inc.	RND 4: N	RND 5: I	RND 6: I
1810 N. 12th Street	RND 7: I	RND 8: I	RND 9: I
P. O. Box 2104	RND10: I	RND11: I	RND12: 4/4
Toledo, OH 43603	RND13: 4/4		
419/241-7175			

D. R. Allenson, PhD	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
Analytical Services Division	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Herron Testing Laboratories, Inc.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
5405 E. Schaaf Road	RND10: 4/4	RND11: 4/4	RND12: 4/4
Cleveland, OH 44131	RND13: 4/4		
216/524-1450			

Bonnie Awan	RND 1: U	RND 2: U	RND 3: U
National Petrographic Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
4484 Willowbrook Road	RND 7: 4/4	RND 8: N	RND 9: N
Columbus, OH 43220	RND10: N	RND11: I	RND12: 4/4
614/459-7360	RND13: 4/4		

Bruce Menkel	RND 1: U	RND 2: U	RND 3: U
Bruce Menkel & Associates, Inc.	RND 4: U	RND 5: U	RND 6: 4/4
235 Industrail Drive	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
P. O. Box 159	RND10: 4/4	RND11: 4/4	RND12: 4/4
Franklin, OH 45005	RND13: 4/4		
513/746-9300			

REGION 5

Robert Voborsky	RND 1: U	RND 2: U	RND 3: U
Parker Services, Inc.(Sentry Insurance)	RND 4: 3/4	RND 5: 4/4	RND 6: 3/4
1800 N. Point Drive	RND 7: 2/4	RND 8: 4/4	RND 9: 3/3
Stevens Point, WI 54481	RND10: 4/4	RND11: 4/4	RND12: 4/4
715/346-6389	RND13: 4/4		
Mr. Richard Zimmerman	RND 1: U	RND 2: U	RND 3: 8/8
Wisconsin State Lab of Hygiene	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
University of Wisconsin	RND 7: 4/4	RND 8: 4/4	RND 9: 2/3
979 Jonathon Drive	RND10: N	RND11: 4/4	RND12: 4/4
Madison, WI 53711	RND13: 4/4		
608/263-6550			
Ms. Carol Gannon	RND 1: U	RND 2: U	RND 3: U
A&G Microscopy	RND 4: 4/4	RND 5: 4/4	RND 6: 3/4
P. O. Box 31	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Arlington, WI 53911	RND10: 4/4	RND11: 4/4	RND12: 4/4
608/635-2853	RND13: 4/4		
Mr. Thomas Stavros	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Wausau Insurance Companies	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Environmental Health Laboratory	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
2000 Westwood Dr.	RND10: 4/4	RND11: 4/4	RND12: 4/4
Wausau, WI 54401	RND13: 4/4		
715/845-5211			

REGION 6

Sham L. Sachdev	RND 1: U	RND 2: U	RND 3: U
ENTEK Environmental Laboratories	RND 4: U	RND 5: U	RND 6: U
11646 Industriplex Blvd., Suite A-3	RND 7: U	RND 8: U	RND 9: U
Baton Rouge, LA 70809	RND10: U	RND11: U	RND12: U
504/292-2900	RND13: 4/4		
Dr. Davy L. Bernard	RND 1: U	RND 2: U	RND 3: U
Acadiana Research Laboratories	RND 4: N	RND 5: 4/4	RND 6: 4/4
University of Southwestern Louisiana	RND 7: 3/4	RND 8: 4/4	RND 9: N
P. O. Box 44210	RND10: 4/4	RND11: 4/4	RND12: 4/4
Lafayette, LA 70504	RND13: 4/4		
Chongi Paul Lo	RND 1: U	RND 2: U	RND 3: U
EIRA, Inc.	RND 4: U	RND 5: U	RND 6: U
2445 Florida Ave.	RND 7: U	RND 8: U	RND 9: U
Kenner, LA 70062	RND10: U	RND11: 4/4	RND12: 4/4
504/469-0333	RND13: 4/4		
Rhonda Dilligham	RND 1: U	RND 2: U	RND 3: U
EnviroMed Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
414 W. California	RND 7: U	RND 8: U	RND 9: U
Ruston, LA 71270	RND10: U	RND11: U	RND12: U
318/255-0060	RND13: 3/4		
Robert F. Sprick	RND 1: U	RND 2: U	RND 3: U
Industrial Hygiene Manager	RND 4: U	RND 5: U	RND 6: U
Kemron Environmental Services	RND 7: U	RND 8: U	RND 9: U
16550 Highland Road	RND10: U	RND11: U	RND12: U
Baton Rouge, LA 70810	RND13: 4/4		
504/293-8650			
Mr. Gary C. Allen	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
Sunbelt Associates, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
6961 Mayo Road	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
New Orleans, LA 70126	RND10: 4/4	RND11: 4/4	RND12: 4/4
504/242-5026	RND13: 4/4		
Jonny H. Vickers	RND 1: U	RND 2: 4/4	RND 3: N
West-Paine Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
7979 G. S. R. I. Ave.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Baton Rouge, LA 70820	RND10: 4/4	RND11: N	RND12: 4/4
504/769-4900	RND13: 4/4		

REGION 6

Ms. Virginia Dugan	RND 1: N	RND 2: 4/4	RND 3: 7/8
Albuchemist, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
501 Wyoming Blvd., S.E.	RND 7: 2/4	RND 8: 4/4	RND 9: 3/3
Albuquerque, NM 87123	RND10: 4/4	RND11: 4/4	RND12: 4/4
505/268-7367	RND13: 4/4		
Cheri Marcham	RND 1: U	RND 2: U	RND 3: U
Standard Testing and Engineering Co.	RND 4: U	RND 5: U	RND 6: U
3400 Lincoln Blvd.	RND 7: U	RND 8: U	RND 9: U
Oklahoma City, OK 73501	RND10: U	RND11: U	RND12: 4/4
405/528-0541	RND13: 4/4		
William M. Kemp	RND 1: U	RND 2: U	RND 3: U
Special Hazard Division	RND 4: U	RND 5: U	RND 6: U
Oklahoma State Dept. of Health	RND 7: U	RND 8: U	RND 9: 3/3
P. O. Box 53551	RND10: 4/4	RND11: 3/4	RND12: 4/4
Oklahoma City, OK 73152	RND13: 4/4		
405/271-5221			
Charles Marshall, Ph. D.	RND 1: U	RND 2: U	RND 3: U
Alpha Analytical Labs, Inc.	RND 4: U	RND 5: U	RND 6: U
P. O. Box 57121	RND 7: U	RND 8: U	RND 9: U
Oklahoma City, OK 73157	RND10: U	RND11: U	RND12: 3/4
405/843-9316	RND13: 4/4		
Cheryl Ball	RND 1: U	RND 2: 3/4	RND 3: 8/8
Oklahoma City - County Health Dept.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Laboratory Health Services	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
921 Northeast 23rd Street	RND10: 4/4	RND11: 4/4	RND12: 4/4
Oklahoma City, OK 73105	RND13: 4/4		
405/427-8651			
Gary Rolls	RND 1: U	RND 2: U	RND 3: U
Texas Research Institute	RND 4: N	RND 5: N	RND 6: N
Environmental Division	RND 7: I	RND 8: I	RND 9: N
9063 Bee Cave Road	RND10: 4/4	RND11: N	RND12: 4/4
Austin, TX 78733	RND13: 4/4		
512/263-2101			
J. P. Forsman	RND 1: U	RND 2: U	RND 3: U
Accredited Industrial Hygienists	RND 4: U	RND 5: U	RND 6: U
P. O. Box 18566	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Houston, TX 77203	RND10: 4/4	RND11: 4/4	RND12: 4/4
713/477-8101	RND13: 4/4		

REGION 6

Ron McKee	RND 1: U	RND 2: U	RND 3: U
McKee Env. Hlth. Svcs.	RND 4: U	RND 5: U	RND 6: U
11114 Sage Park	RND 7: U	RND 8: U	RND 9: 2/3
Houston, TX 77089	RND10: 3/4	RND11: 4/4	RND12: N
713/481-3501	RND13: 4/4		
Steve Moody	RND 1: U	RND 2: U	RND 3: U
Law Engineering Testing Co.	RND 4: U	RND 5: U	RND 6: U
5500 Guhn Road	RND 7: U	RND 8: U	RND 9: 3/3
Houston, TX 77040	RND10: 4/4	RND11: 3/4	RND12: 4/4
713/939-7161	RND13: 4/4		
Geroge Shattuck	RND 1: U	RND 2: U	RND 3: U
NUS Corp.	RND 4: U	RND 5: U	RND 6: U
900 Gemini	RND 7: U	RND 8: U	RND 9: 3/3
Houston, TX 77058	RND10: 4/4	RND11: 4/4	RND12: 4/4
713/488-1810	RND13: 4/4		
Dr. Benjamin Mosier	RND 1: N	RND 2: N	RND 3: N
Institute for Research, Inc.	RND 4: I	RND 5: I	RND 6: I
8330 Westglen Drive	RND 7: I	RND 8: I	RND 9: I
Houston, TX 77063	RND10: I	RND11: I	RND12: I
713/783-8400	RND13: 3/4		
Arthur L. Radcliffe	RND 1: U	RND 2: U	RND 3: U
McClelland Engineers	RND 4: U	RND 5: U	RND 6: U
P.O. Box 740010	RND 7: U	RND 8: U	RND 9: U
Houston, TX 77274	RND10: U	RND11: U	RND12: U
713/772-3700	RND13: 4/4		
Irene C. Hadley	RND 1: 4/4	RND 2: 3/4	RND 3: 8/8
Southwestern Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Box 224227	RND 7: 1/4	RND 8: 4/4	RND 9: 3/3
Dallas, TX 75264	RND10: N	RND11: 4/4	RND12: N
214/631-2700	RND13: 4/4		
Eric H. Wassilak	RND 1: 4/4	RND 2: 4/4	RND 3: 6/8
Environmental Helath Lab	RND 4: 2/4	RND 5: 4/4	RND 6: 4/4
Ctek	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
9742 Skillman	RND10: 4/4	RND11: 3/4	RND12: 4/4
Dallas, TX 75243	RND13: 4/4		
214/343-2025			

REGION 7

I. A. Schwabbauer	RND 1: U	RND 2: U	RND 3: U
The University of Iowa	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
University Hygienic Laboratory	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Iowa City, IA	RND10: 4/4	RND11: 4/4	RND12: 4/4
319/353-5990	RND13: 4/4		
Mary A. Finn	RND 1: U	RND 2: U	RND 3: U
Des Moines Health Associates	RND 4: U	RND 5: U	RND 6: U
4725 Merle Hay Road	RND 7: U	RND 8: U	RND 9: U
Suite 214	RND10: U	RND11: U	RND12: 4/4
Des Moines, IA 50322	RND13: 4/4		
515/276-3642			
W. David Kimbrell	RND 1: U	RND 2: U	RND 3: U
Hall Kimbrell Envr. Services, Inc.	RND 4: U	RND 5: U	RND 6: 4/4
946 Tennessee	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Lawrence, KS 66044	RND10: 4/4	RND11: 4/4	RND12: 4/4
913/749-2381	RND13: 4/4		
Stephen E. Ascher	RND 1: U	RND 2: U	RND 3: U
Wilson Laboratories	RND 4: U	RND 5: U	RND 6: U
525 North Eighth	RND 7: U	RND 8: U	RND 9: U
P. O. Box 1884	RND10: U	RND11: 4/4	RND12: 4/4
Salina, KS 67402 1884	RND13: 4/4		
913/825-7186			
Alan Kerschen	RND 1: U	RND 2: U	RND 3: U
Langston Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
2005 West 103rd Terrace (B)	RND 7: U	RND 8: 4/4	RND 9: 3/3
Leawood, KS 66206	RND10: 4/4	RND11: 4/4	RND12: 4/4
913/341-7800	RND13: 4/4		
Mr. Gaylord Atkinson	RND 1: U	RND 2: 4/4	RND 3: 8/8
Midwest Research Institute	RND 4: 4/4	RND 5: 4/4	RND 6: N
425 Volker Boulevard	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Kansas City, MO 64110	RND10: 4/4	RND11: N	RND12: 4/4
816/753-7600	RND13: 4/4		
Mr. William A. Eddie	RND 1: 4/4	RND 2: 2/4	RND 3: 8/8
Industrial Testing Laboratories, Inc.	RND 4: 3/4	RND 5: 4/4	RND 6: 4/4
2350 Seventh Blvd.	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
St. Louis, MO 63104	RND10: 4/4	RND11: 3/4	RND12: 4/4
314/771-7111	RND13: 4/4		

REGION 7

Douglas Nimmo	RND 1: U	RND 2: U	RND 3: U
Microscopic Analysis Inc.	RND 4: U	RND 5: U	RND 6: U
71 Meadowlark Lane	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Creve Coeur, MO 63146	RND10: 4/4	RND11: 3/4	RND12: 4/4
314/729-2521	RND13: 4/4		
David J. Roth	RND 1: U	RND 2: U	RND 3: U
Larron Laboratory	RND 4: U	RND 5: U	RND 6: U
529 Broadway	RND 7: U	RND 8: 4/4	RND 9: 3/3
Cape Giradeau, MO 63701	RND10: 4/4	RND11: 4/4	RND12: 4/4
314/334-8910	RND13: 4/4		
Mr. Carey J. Burke	RND 1: U	RND 2: U	RND 3: U
Alkaid-Micro Environmental	RND 4: U	RND 5: U	RND 6: U
Laboratories, Inc.	RND 7: U	RND 8: U	RND 9: U
P. O. Box 34681	RND10: U	RND11: U	RND12: 4/4
North Kansas City, MO 64116	RND13: 4/4		
816/472-5530			

REGION 8

Clyde B. Anderson	RND 1: U	RND 2: U	RND 3: U
Anson Laboratories	RND 4: U	RND 5: U	RND 6: U
2906 South Sidney Court	RND 7: U	RND 8: U	RND 9: U
Denver, CO 80231	RND10: U	RND11: U	RND12: U
303/750-5107	RND13: 4/4		
Mr. Todd Reynolds	RND 1: U	RND 2: U	RND 3: 7/8
Mountain Analysts Corporation	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
1330 Lyden Street, Suite 114	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
Denver, CO 80220	RND10: 4/4	RND11: 4/4	RND12: 4/4
303/393-0945	RND13: 4/4		
David F. Farler	RND 1: 4/4	RND 2: 4/4	RND 3: 7/8
Hager Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
4725 Paris Street	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Denver, CO 80239	RND10: 4/4	RND11: 4/4	RND12: 4/4
303/371-1441	RND13: 4/4		
Peggy Dalheim	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Laboratory Manager	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
CSMRI-Analytica	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
5930 McIntyre Street	RND10: 4/4	RND11: 4/4	RND12: 4/4
Golden, CO 80403	RND13: 4/4		
303/279-2581			
Donna C. Mefford	RND 1: U	RND 2: U	RND 3: U
DCM Science Laboratory	RND 4: U	RND 5: U	RND 6: U
12975 West 24th Place	RND 7: U	RND 8: U	RND 9: N
Golden, CO 80401	RND10: 4/4	RND11: 4/4	RND12: 4/4
303/237-0110	RND13: 4/4		
Kathleen Smit	RND 1: U	RND 2: U	RND 3: U
Northern Engineering & Testing, Inc.	RND 4: U	RND 5: U	RND 6: U
600 South 25th Street	RND 7: U	RND 8: U	RND 9: U
Billings, MT 59107	RND10: U	RND11: U	RND12: 4/4
406/248-9161	RND13: 4/4		
Briant L. Davis	RND 1: U	RND 2: U	RND 3: U
South Dakota School of Mines & Tech	RND 4: U	RND 5: U	RND 6: U
Institute of Atmospheric Science	RND 7: U	RND 8: U	RND 9: 3/3
501 East St. Joseph Street	RND10: 4/4	RND11: 4/4	RND12: 4/4
Rapid City, SD 57701-3995	RND13: 4/4		
605/394-2291			

REGION 8

Donald Beck	RND 1: U	RND 2: U	RND 3: U
Analytica Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
1515 East Tenth Street	RND 7: U	RND 8: U	RND 9: 3/3
Sioux Falls, SD 57103-1721	RND10: 4/4	RND11: 4/4	RND12: 4/4
605/338-0555	RND13: 4/4		
Willard C. Dixon	RND 1: U	RND 2: U	RND 3: U
Dixon Information, Inc.	RND 4: U	RND 5: U	RND 6: U
4806 Quail Point Roads	RND 7: U	RND 8: U	RND 9: U
Salt Lake City, UT 84124	RND10: U	RND11: U	RND12: U
801/278-7233	RND13: 4/4		
Lance Eggenberger	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Utah Biomedical Test Laboratory	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
520 Wakara Way	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Salt Lake City, UT 84108	RND10: 4/4	RND11: 4/4	RND12: 4/4
801/584-3253	RND13: 4/4		

REGION 9

Larry Pierce	RND 1: U	RND 2: U	RND 3: U
SEM/TEC Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
2121 So. Priest, Unit 104	RND 7: U	RND 8: U	RND 9: U
Tempe, AZ 85282	RND10: U	RND11: U	RND12: 4/4
602/967-1590	RND13: 4/4		
Gerald J. Karches	RND 1: U	RND 2: U	RND 3: U
Southwest Hazard Control, Inc.	RND 4: U	RND 5: U	RND 6: U
10941 N. Coyote Lane	RND 7: U	RND 8: U	RND 9: U
Tucson, AZ 85741	RND10: U	RND11: 4/4	RND12: 4/4
602/744-1060	RND13: 3/4		
James R. Kessler	RND 1: U	RND 2: U	RND 3: U
Microprobe	RND 4: U	RND 5: U	RND 6: 4/4
5104 E. Burns	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Tucson, AZ 85711	RND10: 4/4	RND11: 4/4	RND12: 4/4
602/745-1189	RND13: 4/4		
Pat Sheppard	RND 1: U	RND 2: U	RND 3: U
Brown and Caldwell Analytical Lab.	RND 4: U	RND 5: U	RND 6: U
1255 Powell Street	RND 7: U	RND 8: U	RND 9: U
Emeryville, CA 94608	RND10: U	RND11: U	RND12: U
415/428-2300	RND13: 4/4		
Sandra J. Millien	RND 1: U	RND 2: U	RND 3: U
One in a Millien	RND 4: U	RND 5: U	RND 6: U
2678 O'Harte Road	RND 7: U	RND 8: U	RND 9: U
San Pablo, CA 94806	RND10: U	RND11: U	RND12: U
415/724-0193	RND13: 4/4		
Joel Cohen	RND 1: U	RND 2: U	RND 3: U
J.M. Cohen, Inc.	RND 4: U	RND 5: U	RND 6: U
1261 E. Hillsdale Blvd., Suite 2	RND 7: U	RND 8: U	RND 9: U
Foster City, CA 94404	RND10: U	RND11: U	RND12: 4/4
415/349-9737	RND13: 4/4		
Ms. Kathy Jones	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Health Science Associates	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
10941 Bloomfield St., STE A	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Los Alamitos, CA 90720	RND10: 4/4	RND11: 4/4	RND12: 4/4
213/430-1031	RND13: 4/4		

Kenneth S. Cohen	RND 1: U	RND 2: U	RND 3: 8/8
Consulting Health Services	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
P.O. Box 1625	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
El Cajon, CA 92022	RND10: N	RND11: 4/4	RND12: 4/4
619/579-6233	RND13: 4/4		
Robert Oneill	RND 1: U	RND 2: U	RND 3: U
Micro-Chem Laboratories	RND 4: U	RND 5: U	RND 6: 4/4
349 Lincoln Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
San Jose, CA 95126	RND10: 4/4	RND11: 3/4	RND12: 4/4
408/993-0998	RND13: 4/4		
Ms. B. M. Tooper	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
EMS Laboratories	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
12563 Crenshaw Boulevard	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Hawthorne, CA 90250	RND10: 4/4	RND11: 4/4	RND12: 4/4
213/973-6694	RND13: 4/4		
Mary Hammons	RND 1: U	RND 2: U	RND 3: U
IT Corporation - Cerritos	RND 4: U	RND 5: U	RND 6: 4/4
17605 Fabrica Way	RND 7: 1/4	RND 8: 4/4	RND 9: 3/3
Cerritos, CA 90701	RND10: 4/4	RND11: 4/4	RND12: 4/4
213/921-9831	RND13: 4/4		
Mr. D. L. Dyer	RND 1: U	RND 2: U	RND 3: 8/8
Dyer Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
22527 Crenshaw Blvd., #209	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Torrance, CA 90505	RND10: 4/4	RND11: 4/4	RND12: 4/4
213/530-3322	RND13: 4/4		
Stuart E. Salot	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Certified Testing Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
2905 E. Century Blvd.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
South Gate, CA 90280	RND10: 4/4	RND11: 4/4	RND12: 4/4
213/564-2641	RND13: 4/4		
Mr. Michael McClara	RND 1: U	RND 2: 4/4	RND 3: 8/8
McClara Laboratory Asbestos	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Control Division	RND 7: 3/4	RND 8: 4/4	RND 9: 3/3
1231 Gary Way	RND10: 4/4	RND11: 4/4	RND12: 4/4
Carmichael, CA 95608	RND13: 4/4		
916/489-9202			

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Mr. Karl Schiller	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
Truesdale Laboratories, Inc.	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
14201 Franklin Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Tustin, CA 92680	RND10: 4/4	RND11: 4/4	RND12: 4/4
714/730-6239	RND13: 4/4		
Dr. Jerry Tuma	RND 1: U	RND 2: U	RND 3: U
Firemans Fund	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
Environmental Laboratory	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
3700 Lakeville Highway	RND10: 4/4	RND11: 3/4	RND12: 4/4
Petaluma, CA 94952	RND13: 4/4		
707/778-4160			
Michael R. Tiffany	RND 1: U	RND 2: U	RND 3: U
Osborne Laboratories, Inc.	RND 4: U	RND 5: U	RND 6: U
12060 Clark Street	RND 7: U	RND 8: U	RND 9: U
Santa Fe Springs, CA 90670	RND10: U	RND11: U	RND12: U
213/944-6435	RND13: 4/4		
Ralph E. Allan	RND 1: U	RND 2: U	RND 3: U
Med-Tox Associates, Inc.	RND 4: U	RND 5: U	RND 6: U
1401 Warner Ave., Suite A	RND 7: U	RND 8: U	RND 9: U
Tustin, CA 92680	RND10: 4/4	RND11: 4/4	RND12: 4/4
714/669-0620	RND13: 4/4		
Craig Sobotka	RND 1: U	RND 2: U	RND 3: U
Testing Engineers - San Diego	RND 4: U	RND 5: U	RND 6: U
3467 Kurtz Street	RND 7: U	RND 8: U	RND 9: U
P.O. Box 80985	RND10: U	RND11: U	RND12: U
San Diego, CA 92138	RND13: 4/4		
619/225-9641			
Peter A. Almendinger	RND 1: U	RND 2: U	RND 3: U
Gemini Petrographic Investigations	RND 4: U	RND 5: U	RND 6: U
671 Bird Court	RND 7: U	RND 8: U	RND 9: U
Novato, CA 94947	RND10: U	RND11: U	RND12: U
415/897-4805	RND13: 4/4		
Bonnie Lee Kellogg	RND 1: U	RND 2: U	RND 3: U
TAKA - West	RND 4: U	RND 5: 4/4	RND 6: 4/4
P.O. Box 70784	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Sunnyvale, CA 94086	RND10: 4/4	RND11: 4/4	RND12: N
415/659-9751	RND13: 4/4		

Edward J. Haggerty	RND 1: 4/4	RND 2: 4/4	RND 3: 8/8
EAL Corporation	RND 4: 4/4	RND 5: 4/4	RND 6: 4/4
2030 Wright Avenue	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
Richmond, CA 94804	RND10: 4/4	RND11: 4/4	RND12: 4/4
415/235-2633	RND13: 4/4		
Charles W. Ay	RND 1: U	RND 2: U	RND 3: U
Asbestos Detechon, Inc.	RND 4: U	RND 5: U	RND 6: U
7602 Talbert Ave., Unit F	RND 7: U	RND 8: U	RND 9: U
Huntington Beach, CA 92648	RND10: 4/4	RND11: 4/4	RND12: 4/4
714/847-1873	RND13: 4/4		
Martin H. Finkel	RND 1: U	RND 2: U	RND 3: U
Finkel Analytical Lab	RND 4: U	RND 5: U	RND 6: U
4853 Coldbrook Ave.	RND 7: U	RND 8: 4/4	RND 9: 3/3
Lakewood, CA 90713	RND10: 4/4	RND11: 4/4	RND12: 4/4
213/496-3804	RND13: 4/4		
James M. Mecozzi	RND 1: U	RND 2: U	RND 3: U
Radiation Dectection Company	RND 4: U	RND 5: U	RND 6: U
162 Wolfe Road	RND 7: U	RND 8: U	RND 9: U
P.O. Box 1414	RND10: U	RND11: U	RND12: U
Sunnyvale, CA 94088	RND13: 4/4		
408/735-8700			
Nancy Carraway	RND 1: U	RND 2: U	RND 3: U
Microanalytical Services, Inc.	RND 4: U	RND 5: U	RND 6: U
35 N. Lake Ave.	RND 7: U	RND 8: U	RND 9: U
Seventh Floor	RND10: U	RND11: U	RND12: 4/4
Pasadena, CA 91101	RND13: 4/4		
818/405-2929			
Robert L. Schwein	RND 1: U	RND 2: U	RND 3: U
Schwein Engineering, Ltd.	RND 4: U	RND 5: U	RND 6: U
3249 Mt. Diablo Boulevard, #102	RND 7: U	RND 8: U	RND 9: U
Lafayette, CA 94549	RND10: U	RND11: U	RND12: U
415/946-9504	RND13: 4/4		
Mark S. Floyd	RND 1: U	RND 2: U	RND 3: U
Science Applications	RND 4: U	RND 5: U	RND 6: 4/4
International Corp.	RND 7: 4/4	RND 8: 4/4	RND 9: 3/3
476 Prospect Street	RND10: 4/4	RND11: 4/4	RND12: 4/4
La Jolla, CA 92038	RND13: 4/4		
619/456-7416			

REGION 9

Mr. Fred Hertlein
Industrial Analytical Laboratory, Inc.
1523 Kalakaua Avenue
Suite 207
Honolulu, HI 96826
808/947-5402

RND 1: 4/4 RND 2: 3/4 RND 3: 7/8
RND 4: 4/4 RND 5: 4/4 RND 6: 4/4
RND 7: 4/4 RND 8: 4/4 RND 9: 3/3
RND10: 4/4 RND11: 4/4 RND12: 4/4
RND13: 4/4

PB86-222353

ASBESTOS CONTAINING MATERIALS IN SCHOOL BUILDINGS: BULK SAMPLE ANALYSIS QUALITY ASSURANCE PROGRAM: ROUNDS 12, 13, AND BLIND ROUND III

Research Triangle Institute
Research Triangle Park, NC

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